

Help:Starting a new page

You may want to create a new page on the wiki you are using. This page tells you how to create a new page.

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Permission

In order to be able to create a new page, the wiki software must know that you have permission to do so. If you don't have permission, when you follow these instructions you will see an error message something like *"You do not have permission to create new pages"*.

Many wikis are set up to allow any user to create pages. Others restrict the "**createpage**" user right to certain user groups. Some wikis (such as the English Wikipedia) allow only users who have logged in to create pages.

If the wiki you're using does not allow you to create a page, first try logging in, if you aren't already. If that doesn't work talk to one of the administrators. Assuming it fits with their policies, they will have to add you to a user group that has the "createpage" privilege or add the "createpage" privilege to a user group you are already part of.

Starting a new page from a link

Some pages contain links to other pages that don't exist yet. These are called "**new page links**". To start one of these new pages, you can click on its link.

New page links typically look different from links to existing pages. Depending on settings, a different color or a question mark is used. (Sometimes links to new pages are called "red links", because a common setting is to display them in red).

Links to non-existing pages are common. They are typically created in preparation for creating a new page, and/or to encourage other people to do so. Some people may see the presence of new page links on a page as a sign that the page is broken. However most wikis are intended to be constantly added to, so in this sense a new page link is only an indication that a particular page is needed. New page links are not really broken as long as the name correctly identifies the intended content. (A new page link with a "wrong" or misspelled name, or that duplicates content found under another name is "broken", but in a different sense.)

Links to non-existent pages are created the same way as links to already existing pages. For example, adding [[New page name]] in the wiki editor will create a new page link to the page "New page name".

If there isn't already a new page link to the page you want to create, you can always add such a link yourself. You would add the new page link typically in a related page, an index page or your own user page.

Sometimes it may be better to wait with creating links until after the new page is created, such as when the new link replaces one to an existing page. In such cases, you can create the link but press Preview instead of Save. In the preview area, clicking on the new page link will start you creating the new page. Later you can go back and add the new link again in the referring page (or if you have the preview still open in another tab, finally pressing Save).

Starting a new page from a search

Another way to start a new page works on many wikis (e.g. the English Wikipedia).

Type the name of the page that doesn't exist in the Search box, and start the search. The search results will say that no such page exists, but on many wikis it will also include a new page link to the page.

Depending on the wiki, the link may say something like:

- Create the page "New page name" on this wiki!

- You searched for [new page name](#)
- There is no page titled "new page name". You can [create this page](#).

Click on the link and you will be starting to create the new page.

The text and whether or not there is a link can be different depending on whether you pressed enter, or clicked on Search or [Go](#). ("Go" often works best.)

Some wikis don't give you a new page link after a search. This depends on what the administrators have set the wiki to produce using [w:MediaWiki:Nogomatch](#).

Starting a new page using an Inputbox

Some wikis have an extension known as [Inputbox](#).

These wikis can create a form where the user can enter a page name and click on a button. If the page doesn't exist, a new page link is shown from which the page can be created.

Here is an example of an Inputbox:

See [Extension:Inputbox](#).

Starting a new page through the URL

Using the browser address bar to enter an URL to a new page is an easy way to start the new page process. Easier still is editing the pagename part of a URL for an existing page.

For instance, if the URL for a wiki currently shows

```
http://meta.wikimedia.org/wiki/Help:Starting_a_new_page
```

you could edit that to say instead

```
http://meta.wikimedia.org/wiki/new_page_name
```

and press enter.

Using the URL for the new page displays the default 'no article' message (see [MediaWiki:Noarticletext](#)). The default page has an *[Edit this page](#)* link, which can be used to begin adding content.

An [interwiki link](#) to a non-existent page gives the same result, but is not recommended. Interwiki links are not highlighted if they are "red" and it is hard to track them.

Editing the new page

Once you've started creating a new page, you still have to say what you want on the page.

Any of the above methods of starting a new page will take you into [edit mode](#) on the non-existing blank page. You edit the new page the same way you [edit](#) any other page. The edit page has a link for *Editing help*, so you won't be lost. For general editing matters and details on the [markup language](#) of the [wikitext](#), see [Help:Editing](#).

When you have finished adding your initial text, click on "Save page". The new page will be created!

Guidelines

Before you create a new page, consider whether you're following the guidelines for the wiki involved. Most wikis have guidelines similar to these:

- If you want to experiment, use a [sandbox](#) first.* Note: A sandbox page often starts out blank. The purpose of this blank page is to use as a whiteboard for your experiments.
- Search** to see **whether** someone has written a similar page before you start one yourself.
- Choose the title carefully.
- Review [conventions of the project](#) you are working in regarding e.g.:
 - Naming conventions; see also [Help:Page name](#).
 - If the text is not very long it may be better to add the text to a related page; that page can always be split later, after it has grown.
 - You can check out "How to write a great article" for guidance.
- While creating the page and **before** saving it, check the *[What links here](#)* link on the creation page. Align the new content with existing links, or change the new title, or fix the other links.
- If nothing points here, the page is isolated. Links to it will need to be added on other pages. You can make your contributions accordingly.

Creating a blank page

A non-existing page is distinguished from a **blank page**: a blank page has a [page history](#). However, creating a new page is just like editing a blank page, except that a new page displays the text from [MediaWiki:Newarticletext](#) (which may vary by project).

Occasionally it is useful to create an empty page - For example a template can be made such that, depending on a parameter, it produces either just a standard text or also an additional text. This is done by having it call another template, of which the name is a parameter; one version of the other template contains the additional text, the other version is blank. See optional text.

To create an empty page, save a page with the wikitext ___END___. This code will not be saved, it just prevents refusal by the system to create an empty page. Alternatively, first create a non-empty page, e.g. with just one character, then edit the page to make it empty. A page with one or more blank spaces at the end, including a page only containing one or more blank spaces, is not possible.

Protecting a page from being created

It is not really possible to protect a page from being created, but one can create a page with a standard text such as in w:en:Template:Deletedpage and protect that page. Note that sometimes a terminology like "This page should not be created." is used even though for the system the page does exists. Therefore it is not suitable for demonstrating a link to a non-existing page.

Non-existing pages showing info

Category and image pages are partly dynamically generated, and partly editable. A category page contains a list of pages in the category, an image page may contain an image and info from Commons. Thus if the page does not "exist" it may still show info.

The edit page of a "non-existing" category page shows the pages it contains. However, the edit page of the local page of an image on Commons neither shows the image, nor the editable content on Commons, not even in preview, it does not even indicate that viewing the page provides an image and other content from Commons.

A link to a "non-existing" category page is treated as a link to a non-existing page, even if the category is non-empty. A link to a "non-existing" local image page of an image on Commons is treated as a link to an existing page, e.g. Image:Cow-on pole, with horns.jpeg, except in the case of a link from an edit summary or log. An indication of the "non-existence" is the lack of a page history link and a related changes link.

Adding documentation

Anyone, including you, can write these help documents at m:Help:Contents, and you are most likely allowed to edit the site, Meta, that you are looking at now! Just use the instructions on this page to create a new article, and start writing.

See also

- Creating pages with preloaded text

Links to other help pages

Help contents

Meta (https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikinews (https://en.wikinews.org/wiki/Special:Allpages?namespace=12) · Wikipedia (https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) · Wikiquote (https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) · Wiktionary (https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) · Commons: (https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikidata (https://www.wikidata.org/wiki/Special:Allpages?namespace=12) · MediaWiki (https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) · Wikibooks (https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) · Wikisource (https://en.wikisource.org/wiki/Special:Allpages?namespace=12) · MediaWiki: Manual (https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · Google

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Starting_a_new_page) · Wikipedia (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Starting_a_new_page) · MediaWiki (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Starting_a_new_page)

Reading

Go · Search · Stop words · Namespace · Page name · Section · Backlinks · Redirect · Category · Image page · Special pages · Printable version

Tracking changes

Recent changes *(enhanced)* | Related changes · Watching pages · Diff · Page history · Edit summary · User contributions · Minor edit · Patrolled edit

Logging in and preferences

Logging in · Preferences · User style

Editing

Starting a new page · Advanced editing · Editing FAQ · Edit toolbar · Export · Import · Shortcuts · Edit conflict · Page size

Referencing

Links · URL · Piped links · Interwiki linking · Footnotes

Style and formatting

Wikitext examples · CSS · Reference card · HTML in wikitext · Formula · List · Table · Sorting · Colors · Images and file uploads

Fixing mistakes

Show preview · Testing · Reverting edits

Advanced functioning

Expansion · Template · Advanced templates · Parser function · Parameter default · Variable · System message · Substitution · Array · Calculation · Embed page

Others

Languages:	<p>English · Afrikaans · Alemannisch · العربية · català · ЧӀвашла · dansk · Deutsch · Esperanto · español · euskara · français · Gaeilge · galego · interlingua · Bahasa Indonesia · italiano · 日本語 · kurdî · Bahasa Melayu · Nederlands · norsk · português · русский · slovenščina · shqip · Basa Sunda · Türkçe · українська · Tiếng Việt · 中文 · Bân-lâm-gú</p>
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Retrieved from "https://meta.wikimedia.org/w/index.php?title=Help:Starting_a_new_page&oldid=17767551"

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Help:Advanced editing

For the basics see [Help:Editing](#).

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References

Wikitext markup — making your page look the way you want

- If you want to try out things without danger of doing any harm, you can do so in the [Meta:Sandbox](#).
- More information on [HTML tags in wikitext](#).

Organizing your writing — sections, paragraphs, lists and lines

What it looks like	What you type
<p>Sections and subsections</p> <p>Start sections with header lines</p> <p>Note: Single equal signs give the highest level heading, like the page title; usually projects have the convention not to use them.</p> <p>New section</p> <p>Subsection</p> <p>Sub-subsection</p> <ul style="list-style-type: none">▪ Start with a second-level heading (==); don't use first-level headings (=).▪ Don't skip levels (for example, second-level followed by fourth-level).▪ A table of contents will automatically be added to an article that has four or more sections.▪ If appropriate, place subsections in order. If listing countries, for example, place them in alphabetical order rather than, say, relative to population of OECD countries, or some haphazardous order.▪ If you want to keep headings out of the TOC you have to use HTML heading tags and close them without using a slash e.g. <code><h4>heading too low level to be in the TOC of large page</h4></code>.	<div style="border: 1px dashed black; padding: 10px;"><pre>== New section == === Subsection === ==== Sub-subsection ====</pre></div>
<p><u>Newline</u></p> <p>A single newline has no effect on the layout.</p> <p>But an empty line starts a new paragraph, or ends a list or indented part. (<code><p></code> disables this paragraphing until <code></p></code> or the end of the section)</p>	

(In Cologne blue, two newlines and a div tag give just one newline; in the order newline, div tag, newline, the result is two newlines.)

A semicolon at the start of a line is not rendered, but has the effect of rendering the newline. A colon in such a line is not rendered, but has the effect of starting a new, indented line, see definition list.

You can make the wikitext more readable by putting in newlines. You might find this causes future problems—see [w:Wikipedia:Don't use line breaks](#) for details.

- When used in a list, a newline *does* affect the layout (See [Help:List](#)).

```

A single
newline
has no
effect on the
layout.

But an empty line
starts a new paragraph.

```

You can break lines without starting a new paragraph.

- Please use this sparingly.
- Close markup between lines; do not start a [link](#) or *italics* or **bold** on one line and close it on the next.

```

You can break lines <br/>
without starting a new paragraph.

```

- *Unordered Lists* are easy to do:
 - start every line with a star,
 - more stars means deeper levels.
 - A newline
 - in a list

marks the end of the list.

- Of course,
- you can
- start again.

```

* Unordered Lists are easy to do:
** start every line with a star,
*** more stars means deeper levels.
* A newline
* in a list
marks the end of the list.
* Of course,
* you can
* start again.

```

1. Numbered lists are also good

1. very organized
2. easy to follow

2. A newline
3. in a list

marks the end of the list.

1. New numbering starts
2. with 1.

```

# Numbered lists are also good
## very organized
## easy to follow
# A newline
# in a list
marks the end of the list.
# New numbering starts
# with 1.

```

- You can even do mixed lists

1. and nest them
 - or break lines
in lists

```

* You can even do mixed lists
** and nest them
*** or break lines <br/>in lists

```

Definition list

word
definition of the word

longer phrase
phrase defined

```

; word : definition of the word
; longer phrase
; phrase defined

```

- One item per line; a newline can appear before the colon, but using a space before the colon improves parsing.

Indenting

A colon at the start of a line indents a paragraph.

A manual newline starts a new paragraph.

- This is often used for discussion on [talk pages](#).

```

: A colon indents a line or paragraph.
A manual newline starts a new paragraph.

```

<p>In the case of a semicolon and some text in front of the colon, the first colon starts a new line (indented as before) even though it is in the wikitext not at the start of the line, see definition list.</p>	
<p>When there is a need for separating a block of text</p> <div style="border-left: 1px solid black; padding-left: 10px; margin-left: 20px;"> <p>the blockquote command will indent both margins when needed instead of the left margin only as the colon does.</p> </div> <p>This is useful for (as the name says) inserting blocks of quoted (and cited) text.</p>	<pre><blockquote> The '''blockquote''' command will indent both margins when needed instead of the left margin only as the colon does. </blockquote></pre>
<p style="text-align: center;">Centered text.</p> <ul style="list-style-type: none"> Please note the US English spelling of "center". 	<pre><center>Centered text.</center></pre>
<p>A horizontal dividing line: this is above it...</p> <hr/> <p>...and this is below it.</p> <p>If you don't use a section header, you don't get a TOC entry.</p>	<pre>A horizontal dividing line: this is above it... ----- ...and this is below it.</pre>

Links, URL

More information at [Help:Link](#).

Internal links

General notes:

- Enclose the **target name** in double square brackets — "[[and]]".
- First letter of target name is automatically capitalized.
- Spaces are represented as underscores (but don't do underscores yourself).
- [Links to nonexistent pages](#) are shown in red — [Help:Starting a new page](#) tells about creating the page.
- When the mouse cursor "hovers" over the link, you see a "hover box" containing... hover over links hereafter to see.

What it looks like	What you type
<p>Basic</p> <p>Sue is reading the official position (or official positions).</p>	<pre>Sue is reading the [[official positions official position]] (or [[official positions]]).</pre>
<p>Basic + Text formatting</p> <p>You can also <i>italicize</i> / etc. links: e.g., Wikipedia.</p>	<pre>'''[[Wikipedia]]'''</pre>
<p>Interwiki linking</p> <p>A link to the page on another wiki (e.g. the same subject in another language)</p> <ul style="list-style-type: none"> See m:Help:Interwiki linking. fr:Wikipédia:Aide. 	<pre>* See [[m:Help:Interwiki linking]]. * [[[:fr:Wikipédia:Aide]]].</pre>
<p>Section of page</p> <ul style="list-style-type: none"> List of cities by country#Morocco List of cities by country#Norway 	<pre>* [[List of cities by country#Morocco]] * [[List of cities by country#Norway]]</pre>

If the section doesn't exist, the link goes to the beginning of the page. If there are multiple sections by the same name, link to specific ones by adding how many times that header has already appeared (e.g. if there are 3 sections entitled "Example header", and you wish to link to the third one, then use `[[#Example section 3]]`. For more info, see [Help:Editing FAQ](#).

Piped link

Use a pipe "|" to create a **link label**:

- [About links](#)

```
* [[Help:Link|About links]]
```

"Blank" pipes hide:

- Parentheses: [kingdom](#).
- Colon: [Requests for adminship](#).

After you save, the server automatically fills in the link label.

```
* Parentheses: [[kingdom
(biology)|kingdom]].
* Colon: [[m:Requests for adminship|]].
```

Links to nonexistent pages

A red link ([like this one](#)) points to a page that doesn't exist yet.

- You can create it by clicking on the link.
- Have a look at [how to start a page](#) guide and the naming conventions page for your project.

```
A red link ([[like this one]]) points to a
page
that doesn't exist yet.
```

Link to yourself

Please "sign" comments on talk pages:

```
Your user name: Example
Your user name plus timestamp: Example 08:10 Oct 5, 2002 (UTC)
Five tildes give a timestamp: 17:55, 12 April 2006 (UTC)
```

The server will fill in the link after you save.

```
Please "sign" comments on talk pages:
: Your user name: ~~~
: Your user name plus timestamp: ~~~~
: Five tildes give a timestamp: ~~~~~
```

One article title to another with this special link, see [Help:Redirect](#).

```
#REDIRECT [[United States]]
```

"Magic" links

- [ISBN](#) links to books: [ISBN 0131103628](#) (see [Help:ISBN links](#))
- [RfC](#) links to Requests for Comments: [RFC 123](#) (see [mediawiki:rfcurl](#))

```
ISBN 0131103628
RFC 123
```

Media links

To include links to non-image uploads such as sounds, use a "media" link.

[Sound](#)

```
[[media:Example.ogg|Sound]]
```

Category listing links (these appear at page bottom and list the page in the category)

To list a page in a category and have a link to the Category at page end.

```
[[Category:English documentation]]
```

Category non-listing links (these appear inline *without* listing the page in the category)

To link to a category without causing the page to be listed in the category, **add a colon**
[Category:English documentation](#)

```
[[[:Category:English documentation]]]
```

Dates

Use links for dates, so everyone can set their own display order. Use [Special:Preferences](#) to change your own date display setting.
[July 20 1969](#) [20 July 1969](#) and [1969-07-20](#)

```
[[July 20]] [[1969]]
[[20 July]] [[1969]]
and [[1969]]-[[07-20]]
```

Special pages

"What links here" etc. can be linked as:
[Special:Whatlinkshere/Help:Editing](#)

```
[[Special:Whatlinkshere/Help:Editing]]
```

Linking to old revisions of pages, diffs, and specific history pages

External link function is used for these as `[[page]]` will not work.

Open an old revision copy the URL and paste it where you want it.
<http://meta.wikimedia.org/w/index.php?title=Fotonotes&oldid=482030>

Open a diff, copy and paste the URL <http://meta.wikimedia.org/w/index.php?title=Fotonotes&diff=493810&oldid=482030>

A specific page from edit history. To do this click the either the (older) or (earliest) button at least once and maneuver to the page you want to link to
http://meta.wikimedia.org/w/index.php?title=Help:Wikitext_examples&dir=prev&offset=20060813153343&limit=100&action=history

```
http://meta.wikimedia.org
/w/index.php?title=Fotonotes&oldid=482030
http://meta.wikimedia.org/w/index.php?
title=Fotonotes&diff=493810&oldid=482030
http://meta.wikimedia.org/w/index.php?
title=Help:Wikitext_examples&dir=prev&offset
=20060813153343&limit=100&action=history
```

External links

General notes:

- By default, external links do not open in a new browser window.^[1]

Nupedia (<http://www.nupedia.com>), ^[1] (<http://www.nupedia.com>)

```
[[http://www.nupedia.com
Nupedia],
[[http://www.nupedia.com]]
```

Email Example (<mailto:email@example.com>),
^[2] (<mailto:email@example.com>)

```
[[mailto:email@example.com
Email Example],
[[mailto:email@example.com]]
```

Or just give the URL: <http://www.nupedia.com>.

- In the URL all symbols must be from this set:
A-Z a-z 0-9 . _ \ / - % - & # ? ! = () @ \x80-\xFF and the SPACE character (" ", but see below).
- If a URL contains a different character it should be percent-encoded as the character's ASCII or UTF-8 code in hexadecimal (case is irrelevant), with each byte preceded by a percent sign. For example
 - ^ becomes **%5e**
 - ā (LATIN SMALL LETTER A WITH MACRON) becomes **%c4%81**
 - A blank space can also be converted into an underscore.

```
Or just give the URL:
http://www.nupedia.com.
```

Text formatting — controlling how it looks

What it looks like	What you type
<p><i>Emphasize</i> (italics), strongly (bold), <i>very strongly</i> (bold italics). (These are double and triple apostrophes, not double quotes.)</p> <p>Note: this can also be applied to links (e.g., Wikipedia).</p>	<pre>''Emphasize'', '''strongly''', ''''very strongly'''''. '''[[Wikipedia]]''</pre>
<p>You can also write <i>italic</i> and bold. This is useful in mathematical formulas where you need specific font styles rather than emphasis.</p> <p>F = ma</p> <p>(The difference between these two methods is not very important for graphical browsers, so most people ignore it.) But it may make a big difference for the visually impaired ;-)</p>	<pre>You can also write <i>italic</i> and bold. This is useful in mathematical formulas where you need specific font styles rather than emphasis. : F = <i>m</i>a</pre>
<p>You can also write IN SMALL CAPS. If the wiki has the templates, this can BE MUCH SIMPLER TO WRITE.</p>	<pre>You can also write in small caps. If the wiki has the templates, this can {{bsm}}be much simpler to write{{esm}}.</pre>
<p>A typewriter font, sometimes used for technical terms and computer code.</p>	<pre>A typewriter font, sometimes used for <tt>technical terms</tt> and <code>computer code</code>. ▪ For semantic reasons, using <code> where applicable is preferable to using <tt>.</pre>
<p>You can use small text for captions.</p>	<pre>You can use <small>small text</small> for captions.</pre>
<p>You can strike out deleted material and <u>underline new material</u>.</p> <p>You can also mark deleted material and <u>inserted material</u> using logical markup rather than visual markup.</p> <ul style="list-style-type: none"> When editing regular articles, just make your changes and do not mark them up in any special way. When editing your own previous remarks in talk pages, it is sometimes appropriate to mark up deleted or inserted material. 	<pre>You can <strike>strike out deleted material</strike> and <u>underline new material</u>. You can also mark deleted material and <ins>inserted material</ins> using logical markup rather than visual markup.</pre>
<p>Subscript: x₂</p> <p>Superscript: x² or x²</p> <p>Most browsers have an easier time formatting lines with &sup2; than with <sup>2</sup></p> <p>ε₀ = 8.85 × 10⁻¹² C² / J m.</p> <p>1 <u>hectare</u> = 1 E4 m²</p>	<pre>Subscript: x<sub>2</sub> Superscript: x<sup>2</sup> or x&sup2; </nowiki></pre> <pre><nowiki> &epsilon;_0;<sub>0</sub> = 8.85 &times; 10<sup>&minus;12</sup> C&sup2; / J m. 1 [[hectare]] = [[1 E4 m&sup2;]]</pre>

Disabling wikitext interpretation and/or reformatting

Hereafter are various ways to control processing and formatting. For the code `{{tc}}` in the examples, referring to [Template:Tc](#), see [Help:Template](#).

	<ul style="list-style-type: none"> interpret special characters interpret special wiki markup reformat text (remove single newlines and multiple spaces, perform 	
--	---	--

<p>regular</p>	<p>automatic wrapping)</p> <ul style="list-style-type: none"> ▪ a double newline gives a new paragraph <hr/> <p>arrow → <code>{{t1c ...}}</code></p> <p><i>italics</i></p> <p><u>link</u></p>	<pre>arrow &rarr; {{tc}} 'italics' [[help:Link link]]</pre>
<p>preserve single newlines (poem tag)</p>	<ul style="list-style-type: none"> ▪ interpret special characters ▪ interpret special wiki markup ▪ partially reformat text (do not remove newlines, remove multiple spaces, perform automatic wrapping) <hr/> <p>arrow → <code>{{t1c ...}}</code></p> <p><i>italics</i></p> <p><u>link</u></p>	<pre>{{#tag:poem arrow &rarr; {{tc}} 'italics' [[help:Link link]]}}</pre>
<p><nowiki></p>	<ul style="list-style-type: none"> ▪ interpret special characters ▪ don't interpret special wiki markup ▪ reformat text ▪ ignore even a double newline (no new paragraph); hence has to be applied separately for each paragraph <hr/> <p><i>can be applied in-line: arrow → <code>{{tc}}</code> "italics" <code>[[help:Link link]]</code> <u>normal</u> again</i></p>	<pre>'can be applied in-line:' arrow &rarr; {{tc}} 'italics' [[help:Link link]] </nowiki>'[[normal]] again'</pre>
<p><pre></p>	<ul style="list-style-type: none"> ▪ interpret special characters ▪ don't interpret special wiki markup ▪ don't reformat text (no wrapping) ▪ allows CSS for HTML element pre; the default skin gives a box ▪ uses a fixed-width font, as specified in the browser settings <hr/> <pre>arrow → {{tc}} 'italics' [[help:Link link]]</pre>	<pre><pre>arrow &rarr; {{tc}} 'italics' [[help:Link link]]</pre></pre>
<p>leading space</p>	<ul style="list-style-type: none"> ▪ interpret special characters ▪ interpret special wiki markup ▪ don't reformat text (no wrapping) ▪ produces HTML element pre, therefore the font and CSS are the same as when using pre; the default skin gives a box ▪ a blank line ends the element pre; if there are more lines with leading space after that, a new pre element starts (in the default skin: a new box) <hr/> <p>arrow → <code>{{t1c ...}}</code></p> <p><i>italics</i></p> <p><u>link</u></p> <p>IF a line of plain text starts with a space it will be formatted exactly as typed in a fixed-width font in a grey dotted-outline box lines won't wrap ENDIF this is useful for:</p> <ul style="list-style-type: none"> * pasting preformatted text; * algorithm descriptions; * program source code * ASCII art; 	<pre>arrow &amp; {{tc}} 'italics' [[help:Link link]]</pre> <pre>IF a line of plain text starts with a space it will be formatted exactly as typed in a fixed-width font in a grey dotted-outline box lines won't wrap ENDIF this is useful for: * pasting preformatted text * algorithm descriptions * program source code * ASCII art * chemical structures * poetry</pre>

	<p>* chemical structures; * poetry</p> <hr/> <p>WARNING: If you make it wide, you <u>force the whole page to be wide</u> and hence less readable. Never start ordinary lines with spaces.</p> <p>(see also hereafter)</p>	
typewriter font	<p>(does not work beyond the end of a paragraph)</p> <hr/> <p>arrow → <code>{{tlc ...}}</code></p> <p><i>italics</i></p> <p><u>link</u></p> <p>New paragraph.</p>	<pre><tt>arrow &arr; {{tc}}</tt> <tt>'italics'</tt> <tt>[[help:Link link]]</nowiki> New paragraph.</tt></pre>
Show special character codes	→	<pre>&rarr;</pre>
Comments	<p>The text between here and here won't be displayed</p>	<pre>The text between '''here''' <!-- comment here --> '''and here''' won't be displayed</pre>

In the case of expandable wikitext like `{{t1demo|p "q" r}}`, `<nowiki>{{t1demo|p "q" r}}</nowiki>` displays this wikitext, while with #tag, `{{#tag:nowiki|{{t1demo|p "q" r}}}}` displays the expanded wikitext start-p "q" r-end.

Special characters

<p>Umlauts and accents: (See <u>Help:Special characters</u>)</p> <p>À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß à á â ã ä å æ ç è é ê ë ì í î ï ñ ò ó ô õ ö ø ù ú û ü ÿ</p> <p>À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß à á â ã ä å æ ç è é ê ë ì í î ï ñ ò ó ô ø ö ø ù ú û ü ÿ</p>	<pre>À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß à á â ã ä å æ ç è é ê ë ì í î ï ñ ò ó ô ø ö ø ù ú û ü ÿ &Agrave; &Aacute; &Aacute; &Atilde; &Auml; &Aring; &AElig; &Ccedil; &Egrave; &Eacute; &Ecirc; &Euml; &Igrave; &Iacute; &Icirc; &Iuml; &Ntilde; &Ograve; &Oacute; &Ocirc; &Otilde; &Ouml; &Oslash; &Ugrave; &Uacute; &Ucirc; &Uuml; &szlig; &agrave; &aacute; &acirc; &atilde; &auml; &aring; &aelig; &ccedil; &egrave; &eacute; &ecirc; &euml; &igrave; &iacute; &icirc; &iuml; &ntilde; &ograve; &oacute; &ocirc; &oelig; &otilde; &ouml; &oslash; &ugrave; &uacute; &ucirc; &uuml; &yuml;</pre>
<p>Punctuation:</p> <p>¿ ¡ « » § ¶ † ‡ • – —</p> <p>¿ ¡ « » § ¶ † ‡ • – —</p>	<pre>¿ ¡ « » § ¶ † ‡ • – — &isquest; &iexcl; &laquo; &raquo; &sect; &para; &dagger; &Dagger; &bull; - &ndash; &mdash;</pre>

<p>Commercial symbols: ™ © ® ¢ € ¥ £ ¤ ™ © ® ¢ € ¥ £ ¤</p>	<pre> ™ © ® ¢ € ¥ £ ¤ &trade; &copy; &reg; &cent; &euro; &yen; &pound; &curren; </pre>
<p>Greek characters: α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω</p>	<pre> α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ ς ς τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω &alpha; &beta; &gamma; &delta; &epsilon; &zeta; &eta; &theta; &iota; &kappa; &lambda; &mu; &nu; &xi; &omicron; &pi; &rho; &sigma; &sigmaf; &tau; &upsilon; &phi; &chi; &psi; &omega; &Gamma; &Delta; &Theta; &Lambda; &Xi; &Pi; &Sigma; &Phi; &Psi; &Omega; </pre>
<p>Math characters: ∫ ∑ ∏ √ − ± ∞ ≈ ∼ ≡ ≠ ≤ ≥ × · ÷ ∂ ' " ∇ ‰ ∘ ∙ ∴ ∅ ∈ ∩ ∪ ⊆ ⊃ ⊄ ⊇ ⊈ ⊉ ⊊ ⊋ ⊌ ⊍ ⊎ ⊏ ⊐ ⊑ ⊒ ⊓ ⊔ ⊕ ⊖ ⊗ ⊘ ⊙ ⊚ ⊛ ⊜ ⊝ ⊞ ⊟ ⊠ ⊡ ⊢ ⊣ ⊤ ⊥ ⊦ ⊧ ⊨ ⊩ ⊪ ⊫ ⊬ ⊭ ⊮ ⊯ ⊰ ⊱ ⊲ ⊳ ⊴ ⊵ ⊶ ⊷ ⊸ ⊹ ⊺ ⊻ ⊼ ⊽ ⊾ ⊿ ⊿ ∫ ∑ ∏ √ − ± ∞ ≈ ∼ ≡ ≠ ≤ ≥ × · ÷ ∂ ' " ∇ ‰ ∘ ∙ ∴ ∅ ∈ ∩ ∪ ⊆ ⊃ ⊄ ⊇ ⊈ ⊉ ⊊ ⊋ ⊌ ⊍ ⊎ ⊏ ⊐ ⊑ ⊒ ⊓ ⊔ ⊕ ⊖ ⊗ ⊘ ⊙ ⊚ ⊛ ⊜ ⊝ ⊞ ⊟ ⊠ ⊡ ⊢ ⊣ ⊤ ⊥ ⊦ ⊧ ⊨ ⊩ ⊪ ⊫ ⊬ ⊭ ⊮ ⊯ ⊰ ⊱ ⊲ ⊳ ⊴ ⊵ ⊶ ⊷ ⊸ ⊹ ⊺ ⊻ ⊼ ⊽ ⊾ ⊿ → ← ↔ ↕ ↖ ↗ ↘ ↙ ↚ ↛ ↜ ↝ ↞ ↠ ↡ ↢ ↣ ↤ ↥ ↦ ↧ ↨ ↩ ↪ ↫ ↬ ↭ ↮ ↯ ↰ ↱ ↲ ↳ ↴ ↵ ↶ ↷ ↸ ↹ ↺ ↻ ↼ ↽ ↾ ↿ ⇀ ⇁ ⇂ ⇃ ⇄ ⇅ ⇆ ⇇ ⇈ ⇉ ⇊ ⇋ ⇌ ⇍ ⇎ ⇏ ⇐ ⇑ ⇒ ⇓ ⇔ ⇕ ⇖ ⇗ ⇘ ⇙ ⇚ ⇛ ⇜ ⇝ ⇞ ⇟ ⇠ ⇡ ⇢ ⇣ ⇤ ⇥ ⇦ ⇧ ⇨ ⇩ ⇪ ⇫ ⇬ ⇭ ⇮ ⇯ ⇰ ⇱ ⇲ ⇳ ⇴ ⇵ ⇶ ⇷ ⇸ ⇹ ⇺ ⇻ ⇼ ⇽ ⇾ ⇿</p>	<pre> ∫ ∑ ∏ √ − ± ∞ ≈ ∼ ≡ ≠ ≤ ≥ × · ÷ ∂ ' " ∇ ‰ ∘ ∙ ∴ ∅ ∈ ∩ ∪ ⊆ ⊃ ⊄ ⊇ ⊈ ⊉ ⊊ ⊋ ⊌ ⊍ ⊎ ⊏ ⊐ ⊑ ⊒ ⊓ ⊔ ⊕ ⊖ ⊗ ⊘ ⊙ ⊚ ⊛ ⊜ ⊝ ⊞ ⊟ ⊠ ⊡ ⊢ ⊣ ⊤ ⊥ ⊦ ⊧ ⊨ ⊩ ⊪ ⊫ ⊬ ⊭ ⊮ ⊯ ⊰ ⊱ ⊲ ⊳ ⊴ ⊵ ⊶ ⊷ ⊸ ⊹ ⊺ ⊻ ⊼ ⊽ ⊾ ⊿ &int; &sum; &prod; &radic; &minus; &plusmn; &infin; &asymp; &prop; &equiv; &ne; &le; &ge; &times; &middot; &divide; &part; &prime; &Prime; &nabla; &permil; &deg; &there4; &oslash; &isin; &cap; &cup; &sub; &sup; &sube; &supe; &not; &and; &or; &exist; &forall; &rArr; &hArr; &rarr; &harr; &uarr; &alefsym; &notin; </pre>

Writing a symbol over another one:

```
<span style="position: absolute;">o</span>x gives ∅.
```

Including another page — transclusion and templates

Changing a transcluded file will change every file that transcludes it.

<p>Transclusion Including the contents of another page into the current page.</p> <div style="border: 1px dashed blue; background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><i>This transclusion demo is a little bit of text from the page <u>Help:Transclusion Demo</u> to be included into any file.</i></p> </div>	<pre>{{:Help:Transclusion Demo}}</pre>
<p>Template</p> <p>A special kind of page designed for transclusion. These pages are found in the Template: namespace. Templates can even take parameters. When you edit a page, all the templates used on the page are listed after the edit box.</p> <div style="border: 1px dashed blue; background-color: #f0f0f0; padding: 10px; margin-top: 10px;"> <p><u>This is underlined</u></p> </div>	<pre>{{H:title hovertext This is underlined}}</pre>

Records of edits in the database

Edits are recorded both in the [revision table](#) and in the [recentchanges table](#) of the database.

The [revision table](#) is used for page histories and user contribution lists. The [recentchanges table](#) is used for recent and related changes, watchlists, and (in the case of page creation) for the list of new pages.

This distinction is relevant in the case that old edits are removed from one of the two tables. For example, if three months of recent changes are kept in the [recentchanges table](#), while nothing is deleted from the [revision table](#), then older edits can be seen in page histories and user contribution lists, but not in recent and related changes, watchlists, and (in the case of page creation) in the list of new pages.

[Import](#) of page revisions adds to the [revision table](#) but not to the [recentchanges table](#), so they add to page histories and user contribution lists, but not to recent and related changes, watchlists, and (in the case of page creation) the list of new pages.

Links to other help pages

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[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](#) or from [Meta](#) (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Advanced_editing) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Advanced_editing) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Advanced_editing) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Advanced_editing) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Advanced_editing)

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Languages:	English · français (https://meta.wikimedia.org/w/index.php?title=Help:Advanced_editing/fr&uselang=fr) · 中文 (https://meta.wikimedia.org/w/index.php?title=Help:Advanced_editing/zh&uselang=zh)
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References

- [mw:Manual:Opening external links in a new window](#)

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Help:Editing FAQ

This page is meant to accompany [Help:Editing](#).

These questions and answers have been culled from some of the talk pages of the various editing-related Help: pages. If you see a useful answer there or anywhere else, please add it here.

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Editing

1.

Q: How do I edit an existing page?

Each Wiki page that can be edited has an edit tab near the top of the page, and may have edit links to the right of each page section. If you wish to edit various parts of the whole page, click the edit tab at the top. If you only wish to edit one section, click the edit link to the right of that section name. *See also the [Wikipedia Editing Tutorial \(http://en.wikipedia.org/wiki/Wikipedia:Tutorial\)](http://en.wikipedia.org/wiki/Wikipedia:Tutorial).*

Q: How do I sign the content I edit?

Three consecutive tildes (~~~) will insert a link to your user page. Four (~~~~) will insert that link and the save time and date. Five (~~~~~) insert just the time and date.

Q: Can I link to a specific section header if there are multiple section headers of the same name? If so, how?

A: Yes, you can. Each section header, regardless of size or depth, has a number corresponding to how many times that header's name has already appeared on the page. The number is "1" for the very first instance, "2" for the next, "3" for the next, and so on. You can link to each header just like a normal header, but using that number after the header's name (i.e. if there are three headers named "Foo," then the first can be linked to like so: `[[#Foo 1]]`, the second, `[[#Foo 2]]`, and the third, `[[#Foo 3]]`). Using the number "1" for the first header is generally superfluous, as the software will automatically link to the first header without using the number (i.e. `[[Foo]]`). If you don't want the number to show, then you have to use a piped link (e.g. `[[Foo 2|Foo]]`).

If you don't know how many times a given header has already appeared on a page (and thus the number to use), there are two ways to find out.

1. Use the table of contents.

If a table of contents appears on the page, click on the header whom you wish to link to. The page will jump to that header. Now, look at the URL. At the end, it will show the ID of the header in question. An example of a URL who has just been linked to a header, whose name has already appeared twice (and so is the third instance), and whose name is "Foo:"

```
http://meta.wikimedia.org/wiki/Example_article#Foo_3
```

The header link at the end of the URL shows that to link to this header, you would use `[[#Foo 3]]`.

2. Look at the source.

While looking at the source, first find the section you're looking for, and then look at its ID tags. It will show the number in that tag. An example for a header, whose name has already appeared once (and so is the second instance), and whose name is "Foo:"

```
<p><a name="Foo_2" id="Foo_2"></a></p>
<h3>Foo</h3>
```

The ID and name tags (the ones that say "a name=" and "id=") show that this header can be linked to with `[[#Foo 2]]`.

Problem and workaround

Unfortunately, these numbers are "live". (*All the following examples are made up.*) Suppose there's an article on "US Presidential Tastes", with a section for each of the presidents in order and subsections about their favorite books, foods, colors, and so on. While editing a different article, "Codfish", you remember that Benjamin Harrison, the 23rd President, liked codfish for breakfast; so you include that fact, with a link to Harrison's "Breakfast" subsection of "US Presidential Tastes".

But later another editor discovers what James Buchanan (15th President) liked for breakfast. Since there's no Breakfast subsection for Buchanan, this editor adds one. Proper procedure. *But that bumps up all the numbers of the subsequent Breakfast subsections, and your Harrison link now points to information about William McKinley's tastes in breakfast.* (Don't worry about Grover Cleveland (http://en.wikipedia.org/wiki/Grover_Cleveland): he has only one section.)

For a workaround, see Section linking with arbitrary id.

Miscellaneous

Q: How do I get a page deleted?

For example, if I'm done fooling around with some sandbox pages created as sub-pages of my Wikimedia user page, how do I get them deleted? The Help mentions "contacting an administrator", but if there is a **list of admins** somewhere, I was unable to find it. The wikipedia "VfD" approach does not seem to be implemented on Wikimedia, so I'm at a loss.

A: [Meta:Deletion_policy](#)

A: The list of admins is here: [Meta:Administrators#List of administrators](#)

Q: How do I archive my User Page?

A: Four possibilities are:

1. move talk page to page like User:a/b (history is now in this archive)
2. move page contents to such a page (history is still in the regular talk page)
3. just delete content (it is still in the history, but one can less easily search in that text) -- [Patrick](#) 14:32, 24 Jun 2005 (UTC)
4. Use a link to an earlier version of the page in its history. It does not require creating "sub pages" for archives. You can see an example at [wikibooks:Talk:Wikijunior_Solar_System/Solar_System](#).
 - Click on the history tab
 - Click on the first version listed there
 - Copy the URL from the address bar. Let's say it is `http://meta.wikimedia.org/w/index.php?User_talk:a&oldid=12345`
 - Edit your talk page.
 - Delete all the stuff you want to remove from the current version of your talk page.
 - Link to the archive version as `[http://meta.wikimedia.org/w/index.php?User_talk:a&oldid=12345 Sept 2005 archive]`
 - Save the new version of your page.

Q: Can I put preformatted text inside a numbered list?

A: It used to be possible almost until 1.5.7 version. But as of now [15:03, 5 September 2006 (UTC)] the following does not work anymore: Question, what can i do

If you use the `<nowiki>` tag and the `<pre>` tag like this:

<pre>1. one 2. two [] here are a couple lines of preformatted text 1. and the numbering 2. starts over</pre>	<pre># one # two<pre><nowiki> here are a couple lines of preformatted text </nowiki></pre> # and the numbering # starts over</pre>
---	--

Ulf Rompe 10:54, 27 August 2009 (UTC): You can make it (kind of) work if you don't mind prepending every line of your preformatted text with "#:" and getting some more indentation than usual. Instead of or in addition to "<code>" you may use other block tags except "<nowiki>":

<ol style="list-style-type: none"> 1. one 2. two <p style="padding-left: 40px;">here are a couple lines of preformatted text</p> <ol style="list-style-type: none"> 3. and the numbering 4. continues 	<pre># one # two #:<code lang="text"> #:here are a couple lines #:of preformatted text #:</code> # and the numbering # continues</pre>
---	--

Try this (Jeremy Koppel):

<ul style="list-style-type: none"> ■ one ■ two <div style="border: 1px dashed black; padding: 5px; margin: 5px 0;"> <p>Here are a couple lines... ...of preformatted text</p> </div> <ul style="list-style-type: none"> ■ and the numbering ■ starts over 	<pre> one two<pre> Here are a couple lines... ...of preformatted text </pre> and the numbering starts over </pre>
---	---

HTML Ordered Lists (UBCToad (talk) 19:50, 5 November 2013 (UTC)):

Note: This is an expansion of Jeremy's suggestion above.

<ol style="list-style-type: none"> 1. Use ordered lists (OL) to begin each item with a number. 2. End a list item before starting a line with spaces. Here is pre-formatted text. Enclosed in a border. 3. And the last item 	<pre> Use ordered lists (OL) to begin each item with a number. End a list item before starting a line with spaces. Here is pre-formatted text. Enclosed in a border. And the last item </pre>
---	---

Q: Signing?

I type the four tildes as it says every time, but where my name is there isn't a link to my user page and after I do it the SineBot says I haven't signed it (even though you can see my name there) and then it signs it for me. Bsrboy 22:57, 25 March 2008 (UTC) <<< see? >>>

Q: Can I generate a frame-like structure on a Wiki page?

(I have a chart generated dynamically in Bugzilla and I would like to display it within my Wiki page.)

A: ???

"Technically, you can do this with html div's and inline css styles, i.e. use a div with height and width set and overflow set to scroll" --[68.170.246.50](#) 01:11, 9 March 2006 (UTC)

A good suggestion, but that won't work for the originally requested use case. You can't make your DIV pull external content from Bugzilla, like frames do. You can only lay out the wiki page content in a frame-like design. [82.200.65.190](#) 09:37, 16 March 2006 (UTC)

The last comment was from me, I wasn't logged in. -- [Alexey Feldgendler](#) 09:39, 16 March 2006 (UTC)

Is it not possible to use the FRAME tag inside HTML inside of a wiki page?

Q: Can I display only so many lines of text?

I want to set up a template that pipes in 'n' lines of text to a page, and then provides a link to the rest of the article. Can I do this?

Not in the current version of MediaWiki, as far as I know. -- [Alexey Feldgendler](#) 09:43, 16 March 2006 (UTC)

Q: How can I place a note underneath and to the right of an image (but keeping the image by default to the left of the page)?

--[168.202.82.178](#) 09:53, 28 March 2006 (UTC)

A: ??

Tables

Q: Can I make transparent borders and rules on a table?

A: Yes.

That's a tough one because there is no "cellborder" directive for the table style. You can play with the BORDER and RULE attributes of table, but it seems that you cannot rely upon your browser to interpret that stuff the way you want it.

I think the easiest way to write this is using wiki table notation with a different background for the table and for each row.

abc	def	ghi
jkl	mno	pqr

```
{| style="background:white"
|- style="background:lightgrey;"
| abc || def || ghi
|- style="background:lightgrey;"
| jkl || mno || pqr
|}
```

Links

Q: Can I make a link to open in a new page?

see: http://www.mediawiki.org/wiki/Manual:Opening_external_links_in_a_new_window VoskampM 08:38, 10 March 2006 (UTC)

Links to other help pages

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Help:Edit toolbar



<translate> **This page is outdated**, but if it were updated, it might still be useful. Please help by correcting, augmenting and revising the text into an up-to-date form.</translate>

In compatible browsers, an **edit toolbar** can be automatically displayed with the edit box, provided that this has been set in the [preferences](#). It appears automatically for editors who are not logged in. This functions partly as a typing aid and partly as a reminder of the available functions. All the functions are available simply by typing the code directly into the edit box (such as [[link]]) - this may be easier.

The toolbar works with [Internet Explorer](#), [the Mozilla Suite/SeaMonkey](#), [Firefox](#), [Chrome](#), [Konqueror](#), [Safari](#) and [Opera](#).

For example:

Editing Wikipedia

From Wikipedia, the free encyclopedia.



```
'''Wikipedia''' is a [[wiki]]-based [[free co
like an [[internal link|eteter]]-like information. Free
multilingual, and an [[open content|open-cont
operated by the non-profit [[Wikimedia|Wikime
contains over 190,000 articles in [[English l
languages.
```

```
Wikipedia started as an English language proj
began to build Wikipedia in other languages.
```

To turn a piece of text into an *internal link*, select it and press the third button.

In Mozilla browsers and IE, you can format existing text by highlighting the text you want to format and clicking the relevant button on the toolbar. If you click a button without selecting any text, sample text will be inserted at the cursor's position (like so: **Bold text**). In other browsers, clicking on the button presents an explanation for that feature. (Pre-release 9.0 versions of Opera browser also seem to support the advanced functionality.)

All of the toolbar options, and further editing options, are available in [Bananeweizen's Firefox extension](http://wikipedia.mozdev.org) (<http://wikipedia.mozdev.org>).

Contents

List of functions

[abc](#)

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List of functions




(apart from the last two examples, these pieces of wikitext are created by typing *abc*, selecting it and clicking the buttons on the toolbar)

abc

Icon	Function	What it shows when editing	What it shows on the page
	Bold or strong emphasis	<code>'''abc'''</code>	abc
	Italic or emphasis	<code>''abc''</code>	<i>abc</i>
	Internal link	<code>[[meta:Sandbox abc]]</code>	abc
	External link	<code>[abc.com]</code>	abc.com
	Section heading	<code>== abc ==</code>	
Color	What you want in color	<code></code>	Red
	Insert image	<code>[[Image:abc.png]]</code>	
	Insert media	<code>[[Media:abc.ogg]]</code>	Media:abc.ogg
	Mathematical formula	<code><math>abc</math></code>	<i>abc</i>
	Ignore wiki formatting	<code><nowiki>abc '''[[Bold text]]'''</nowiki></code>	abc '''[[Bold text]]'''
	Sign talk comments (with time stamp)	<code>~~~~</code>	Gareth Aus 22:49, 11 February 2006 (UTC)
	Horizontal line	<code>----</code>	<hr/>

WikiEditor alternative toolbar

The WikiEditor extension implements the alternative toolbar shown below. It was developed as part of the Wikipedia Usability Initiative in 2009, made available in MediaWiki version 1.19.x, and became the default on Wikimedia sites in 2010. The wiki administrator must enable it in the LocalSetting.php file; users can enable and disable it in the Editing tab of Special:Preferences.

```
B I    ▶ Advanced ▶ Special characters ▶ Help ▶ Cite  
'''{{Refimprove|date=June 2006}}  
{{Copy edit|date=September 2010}}  
[[File:She-wolf suckles Romulus and Remus.jpg|thumb|300px|The wolf, who is feeding the twins [[Romulus and Remus]]; this is probably the  
famous legend.]]  
  
The '''founding of [[Rome]]''' is reported by many legends, which in recent times are beginning to be supplemented by more scientific  
reconstructions.
```

See also

- [mw:Extension:CharInsert](#)

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Help:Moving a page

Moving a page means giving the page a different name.

There are several reasons why you might wish to rename a page:

- The title has been misspelled.
- To correct a title that does not follow the wiki's naming conventions (such as [Wikipedia's naming conventions](#) or [Wikibooks naming policy](#)).
- The subject of the page has changed its name. For instance, a page about a person might be renamed if the person changes their name.
- The scope of the article has been reduced, extended or otherwise changed.
- A Talk page may be moved as one of the methods of archiving discussion (see [w:Help:Archiving a talk page](#))

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Move is the same as rename

The terms "rename" and "move" mean the same thing when talking about a wiki page. You can use these instructions to do either. In fact, the two terms are just different ways of picturing the same operation:

- **Rename:** Keep the page but give it a different name. The edit history of the page carries on under the new name. At the same time, a page with the old name is created. That page's edit history records the renaming. That newly-created "old" page starts out as a redirect to the new name.
- **Move:** Move the contents and the edit history to a new page. Change the old page into a redirect to the new page. Change the edit history into one that only records the renaming.

Both of these are doing exactly the same thing. It's just different words and different ways of thinking about what is accomplished.

For those interested in the technical details which aren't apparent to regular users of the wiki, internally the wiki software uses the "rename" model. The system marks the page that had the old name as now having the new name. (The entry in the [page table](#) connects a new page name to the page ID. The [revision table](#) just gets entries about the move, nothing else, because the relation between page ID and revision IDs remains the same.) This model avoids "changing the history", a kind of "[historical revisionism](#)".

Permission

In order to be able to move or rename a page, the wiki software must know that you have permission to do so. If you don't have permission, you will not see the "Move" tab needed to do so.

Some wikis are set up to allow any user to move pages. But many restrict the "**move**" user right to certain user groups. Some wikis (such as the English Wikipedia) allow only users who have logged in to move pages.

If the wiki does not allow you to move a page, first try logging in, if you aren't already. If that doesn't work talk to one of the administrators. Assuming it fits with their policies, they will have to add you to a user group that has the "move" privilege or add the "move" privilege to a user group you are already part of.

On many wikis you have to be logged in, and there may be a set length of time that you will have to have had an account for (often four days), along with a minimum number of edits having been made from that account (often zero). On these wikis you are automatically given the "move" privilege after these criteria are met.

How to do it

To move or rename a page:

1. On the page you want to change, click on the "Move" tab near the top of the page (placement depends on your settings).
2. You'll be asked for a new name for the page, and given the option to also move the page's talk page. Enter the new page name.
 - Unless you know what you're doing, it's safest to say yes to moving the talk page as well.
 - As of MediaWiki 1.5, the reason for the move can be given, like an edit summary. Note however that the inputbox seems to accept an unlimited number of characters while not more than 255 characters are actually recorded in the move log.
3. Click the move button and the page will be renamed to the new title.

Moving doesn't change links

When you move a page to a new name, any other page which had a link to the old name will remain the same. Those old links will not change to the new name.

The old links to the old name will however work -- they'll access the page under its new name. This works because a redirect is automatically created from the old name to the new name.

Sometimes you'll want to change the links on all those pages to be links to the new name. Other times you'll decide you can leave them as is. If the old page name is no longer a valid alternative name for the page (e.g. it was a misspelling), you'll likely want to change it on any pages that linked to the old page name.

You can find all the pages that link to the old name by clicking on "what links here".

Moving creates redirects

When moving a page, a new page under the old name is automatically created. That page contains a "redirect" to the new name. Any reader that tries to access the page under the old name will automatically be redirected to the page under the new. For instance, any links to the old title will still go to the new title instead.

Most often, having a redirect automatically created is what you want. But in some circumstances you may have wanted to move a page so that you can create a new page with different contents under the old name. You can change a redirect into an a regular page and add your content.

Note that the wiki software does not support double redirects (Page A redirects to Page B which redirects to Page C). In such a case, accessing Page A will show Page B and the user will have to click on a link to see Page C. This could be a problem when moving the page, if there are already redirects to the old page name. Renaming a page once and then renaming it again will cause a double redirect.

After moving a page, you should check for and fix double redirects.

Page histories

The "move page" function keeps the entire edit history of the page before and after the move in one place, as if the page had *always* had the new page name.

The move itself is recorded in the edit histories of both pages. (This feature was introduced in MediaWiki 1.5. Older versions recorded moves indirectly, in the page history of the old page name. Upgrading to 1.5+ does not retroactively fix the recorded histories.) In the move log^[1] the reason of the move is recorded. However, this is not always completely shown in the edit histories; there is a maximum size to this message.

Avoid copy and paste

Except in rare circumstances, you should always rename a page rather than using copy and paste because:

- **It's easier!** The software does the actual moving for you, and even turns the old page into a redirect to the new one.
- **Talk pages stay in sync.** Unless you tell it not to, or there's another talk page there already, the software will move the article's talk page to match its new title.
- **The edit history is retained.** If you copy and paste text, it is no longer possible to see who edited that text when, because those edits didn't happen to the same article. If you rename a page, however, the entire history remains intact, giving previous editors the credit they deserve.
- **It is easily reversible.** If a page is renamed in error, the software will allow it to be renamed back to the old name, even though the old page exists (as a redirect). This is very tidy, since the erroneous name will now be a redirect with no edit history, and may be deleted with no loss if that redirect will not be useful.
- **People's watch lists will be updated.** If you turn a page that someone has on their watch list into a redirect, they may not notice, and will not then see edits on the new page. If you rename the page, however, the new page will automatically be added to their watchlist.
- **It will show up as a move on "recent changes".** OK, so you could put this in your edit summary if you remembered, but it's nice to have it automatically having a consistent label, right?

The rare circumstances where copy and paste is appropriate, include:

- unmovable pages.
- when splitting a page into multiple pages. If you do, please include a note in the new pages's edit summary and talk page stating where you took the text from.
- when you're not actually moving or renaming a page, but truly want to preserve the old page while making a copy.

See "fixing cut and paste moves" below.

Page move restrictions

The wiki software cannot move certain types of pages, or restricts renaming of them to certain user groups.

Pages in the "Image:" namespace can only be moved by people in the file mover user group (which generally includes admins). Pages in the "Category:" namespace cannot be moved at all. To change the name of a category, one needs to change all category tags on the pages that are listed in that category. Then copy the editable part of the old category to the new category. And finally delete the old category page.

Moving redirect pages

A page that is a redirect can be moved like any other page. This is however not advised while it has the same detrimental effect on page history as copy-pasting content to a new page, and making the old page a redirect: when moving a redirect page to a new page name, the redirect on the old page (now directing to the new redirect page) will have to be changed in order to avoid double redirects. So the content of the *old* page will no longer redirect to the page containing the history of that old page. The only effect is that the whereabouts of the page history of the old page (now seemingly a "recently created page") are a bit trickier to find, while on the other hand the new page has a history attached to it not clarifying why it would need to be a redirect page.

If a redirect page does not redirect to the page it would need to be redirecting to, the only viable strategy that respects page histories, is to adapt the redirect on that page, without moving the page.

Moving over a redirect

If the new title already exists but is just a redirect to the old title, with just one line in the page history, the creation of the redirect, then you *can* rename the page. The most common case in which this applies is that of re-naming a page back to its original name. As mentioned, this works only if the redirect that was automatically created in the first renaming, has not been edited.

The information about the former creation of the redirect over which the move takes place is lost. If it was the result of an earlier move of the page that is now moved back, that information is still available in the history of that page.

More moves back and forth are possible, and always the page history of the current title shows all moves, and that of the other title only contains the edit line of the latest move.

As mentioned, recording a page move in the edit history of the page itself is a feature introduced in MediaWiki 1.5 which does not work retroactively. Prior to MediaWiki 1.5 if there were several moves back and forth, only the latest was recorded.

There was a bug in earlier versions of MediaWiki that caused inaccurate dates in edit histories. In these versions of the software, if a page was moved over a redirect, the edit history of the newly created redirect would show the latest move with the correct user name, but with the date and time when the overwritten redirect was created. The date and time of the actual page move was therefore lost (though it appeared in the recent changes list). See this comment at talk:PETA on the English Wikipedia (<https://en.wikipedia.org/w/index.php?title=Talk:PETA&diff=16054409&oldid=1512139>) for a demonstration of this bug.

Moving over an existing page

Administrators can move a page, deleting an existing page with a name equal to the new name of the moved page, in one step. The associated talk page will not be moved if the target talk need to be deleted as well.

If the new title already exists and isn't just a redirect to the old title, with no history, and you are not an administrator, the wiki will tell you that you can't rename the page. You'll either have to manually merge the two pages, or if there's no real content in the page ask an Administrator to have it deleted or list it on your project's "votes for deletion" page in order to make room for moving the page.

Move-protected pages

Administrators can protect pages from moves. If a page is protected from moves only, the "Move this page" link will not be available. In this case, you can ask that an administrator to move it for you, or you can manually move the page, by copying the contents to the new page and redirecting the old page to the new page. However, the latter is generally not recommended, and users are asked to request the moves instead.

Pages that are protected from editing are automatically protected from moves.

Guidelines

Before you rename page, consider whether you're following the guidelines for the wiki involved. Most wikis have guidelines similar to these:

- *If you want to experiment, use a sandbox first.* Note: A sandbox page often starts out blank. The purpose of this blank page is to be used as a whiteboard for your experiments.
- Choose your new title carefully.
- Review the conventions of the project you are working in regarding e.g.:
 - Naming conventions; see also Help:Page name.
- Take some time to make sure there is no objection to your move; always check the talk page first.
- Avoid moving a page while the edit box of the corresponding Talk page is open: otherwise when you hit "Save page" you will overwrite the redirect to the new talk page (you do not get the usual warning that the page has been edited while your edit box was open) and get a duplication of the contents of the talk page, with your latest addition added to the old instead of the new one.
- It is useful to copy the message "Page ... moved to ..." to the new talk page, especially if there has been discussion about the name of the page.

Other notes

Moving a page shows up in Recent Changes under "Move log", which links to a log of all moves. However, moving a watched page does not show up on the watchlist; after the move both the old and the new name are watched.

Subpages, such as the archives of a talk page, and the documentation page of a template, are not automatically moved along with a page move. Administrators can automatically move up to 100 subpages along with the basepage.

Undoing a move

To undo a move from page A to page B, simply move page B back to page A.

Note that the usual "undo" link on the history or diff pages does not work on moves. An easy way to rename the page back is clicking "View logs for this page" from the history page, and then "revert" link from the corresponding record in Special:Log.

The software requires that the redirect be pointing to the page you're moving it from. Therefore, if a user moved Page A to Page B to Page C, you cannot simply move C to A, you have to:

1. Move page C to page B
2. Move page B to page A

If page A has subsequently been edited, or the move software is behaving weirdly, only an admin can sort things out:

1. Delete page A (make sure it has no useful history - you may wish to add an explicit author credit on a talk page to compensate, or undelete

those versions after the move)

2. Move page B to page A.
3. Delete page B (should be a history-free redirect to page A)

"Move wars" are highly unproductive, and leave vast numbers of pointless redirects littering the place, which some poor soul will have to fix.

After undoing a move, if you do not need B as a redirect, tag it for deletion (using the appropriate process on the wiki you're using, for instance 'speedy deletion' or 'votes for deletion'), or (administrators only) just delete it.

Swapping two pages

To swap pages A and B, including history, as administrator:

1. Move page A to page C (previously non-existing), without redirect
2. Move page B to page A (allowed because A is non-existent), without redirect
3. Move page C to page B (allowed because B is non-existent), without redirect

If you are not an administrator, ask for help. Some large projects have a separate page (called "Requested Moves", or something similar) specifically for requesting help with these (and also for discussing potentially contentious moves). There may also be a template for this.

Fixing cut and paste moves

Some more complex cases are explained at [Wikipedia:How to fix cut and paste moves](#)

Users sometimes move pages manually using cut and paste, either because they are unaware of the page move function, or because they are unable to use it. As a result, the page history of an article or talk page can be split among two or more different pages.

In some circumstances, administrators are able to fix this by merging page histories.

Warning: this procedure may only be undone by an administrator, by spending quite silly amounts of time: to undo a merge, every single version has to be manually reassigned to the correct source page (by deleting the revisions that are in the correct location currently and moving the other revisions to their new correct location, then undeleting the revisions that were in the correct location). Do not do this if you are not sure what you are doing.

Follow this procedure to merge page histories:

1. Suppose we wish to merge edit history from Alabama/Music (old title) into Music of Alabama (new title):
2. Delete Music of Alabama, with comment *deleting to merge page histories - back soon*.
3. Move Alabama/Music to Music of Alabama, using the move tool.
4. Undelete the Music of Alabama article.
5. Edit Music of Alabama to restore the most recent version as shown in the page history before the merge (or use administrator rollback).

Note that the page history will often look wrong until the last step here is carried out, because it doesn't update after an undeletion until the next time the page is edited.

Merging page histories of pages with many revisions

Suppose that the page Music of Alabama had too many revisions to be deleted or deleting it may cause other disruption. The following procedure can be used to merge page histories in this situation:

1. Move Music of Alabama to Alabama/Music with a move summary like "history merge, will be back at correct title soon". Answer yes when asked to delete the Alabama/Music page.
2. Undelete the revisions of Alabama/Music containing the page history.
3. Move Alabama/Music back to Music of Alabama.
4. If needed, undelete the remaining revisions at Alabama/Music.

Automating multiple page moves

Administrators and other users with the "move-subpages" right are also given an option to move up to \$wgMaximumMovedPages subpages and talk subpages can be moved along with a move target if enabled. Currently this is enabled for all Wikimedia wikis with \$wgMaximumMovedPages set to 100 by default, but raised to 500 for Wikibooks wikis, which have a greater need for this ability.

For this to work, *all* target titles for the subpages (and their talks) must be free; no mass move over redirect or overwriting (with deletion) is allowed.

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Help:Export

 This page can be found at **[mw:Help:Export](#)**
This is an [interwiki redirect](#).

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Help:Import

There are two types of **import**, both accessed through [Special:Import](#):

- **transwiki import**, also called **interwiki import**: import pages directly from another wiki; the settings of the destination wiki determine which source wikis are enabled; [message with id 'import-interwiki-text' \(talk\)](#) appears; after "Transfer pages into namespace" one can specify a target namespace; the option "all" actually means "the same as the original".
- **upload import**: import a file in a special [XML](#) format produced by [exporting](#) pages from another wiki; [message with id 'importtext' \(talk\)](#) appears;

See the page [Importer](#) for information about the user groups performing these actions.

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Transwiki import

On many Wikimedia wikis transwiki import is disabled too, it gives [message with id 'importnosources' \(talk\)](#): "No wikis from which to import have been defined and direct history uploads are disabled." However, pages from [commons:](#), [foundation:](#), [w:](#), [cs:](#) and [fr:](#) can currently be imported to Meta, and pages from Meta can be imported to [mw:](#). The act of importing is added to the page history and to [Special:Log/import](#).

If an imported page has the same name as an existing page in the target wiki, the page is overwritten if the imported page is newer (according to the timestamps). If an error occurred during the import then you may find the import is partially complete (some pages imported, but not all). Since pages are overwritten, attempting the import again should not be a problem.

If you specified to include history information, then you should also see information about the edits in the 'history' of the imported pages, and in the user contributions. The edits will not show up in 'recent changes' (neither positioned at the time of the original edit, nor at the time of importing). The effect will be similar to a full history merge and it may be quite difficult to later determine which edits were imported.

There is an option "Include all templates", which will import the templates that are on an imported page. If this is not used they will be redlinked unless a template of the same name exists on the target wiki. If this is used, templates of the same name on the target wiki will be overwritten and the import will include not only the templates on the imported page but also any templates used within those templates. It is possible to import a collection of pages by specially creating a page that transcludes them, and importing that page, with the option on. However, this should be done very carefully or it may result in far more being imported than desired - again, it will import all templates on the transcluded pages and all templates nested within those templates.

Useful applications of importing include:

- when a page is moved to another wiki and subsequently edited there, have the history together in the target wiki; this is especially useful if the source page becomes more difficult to find due to page moves etc.
- when a page is moved to another wiki and deleted on the source wiki, preserve the history.
- in order to have templates that exist on another wiki/subdomain.
- on certain projects such as wikisource and wiktionary, to move multilingual content between language subdomains.

Implementation

To check whether your wiki has the transwiki right configured, and, where it is configured, to which wikis, you can query your wiki using the api.

- `<wiki url>/w/api.php?action=paraminfo&modules=import`
 - eg. <https://meta.wikimedia.org/w/api.php?action=paraminfo&modules=import>

The configuration is expressed in `<param name="interwikisource" description="For interwiki imports: wiki to import from"> ...`

Alternatively one can check the global configurations at <http://noc.wikimedia.org/conf/highlight.php?file=InitialiseSettings.php> and look in the section `wgImportSources`.

If there is no transwiki configured, then seek your local community's consensus to have the transwiki configured, and to identify from which wikis you may wish to import. Requests for configuration changes should be lodged in [Bugzilla](#): where you would create a new bug under the `Wikimedia:` section. You would be expected to link to your community's discussion in your bug request.

A query of the API at your local wiki would also display the usergroup rights, check for the `<add>` tag

- `<wiki url>api.php?action=query&meta=siteinfo&siprop=usergroups`
 - <https://meta.wikimedia.org/api.php?action=query&meta=siteinfo&siprop=usergroups>

Assignment of transwiki import rights

Most transwiki rights are assigned to users following a successful discussion in their community's wiki, followed up by a request to stewards at [Steward requests/Permission](#). Some wikis have requested and been granted that local bureaucrats be able to assign this right, check with your wiki for the current situation there.

Upload import

How to export, and the format of exported pages, is described at [Help:export](#). Normally any user can export wiki pages to a file, but to import pages into a wiki from a file, you must have 'Sysop' privileges on that wiki. So if you have your own MediaWiki installation, then you should be able to see the 'Special:Import' page there. Within the Wikimedia Foundation family of wiki projects, only users with the `importupload` user-right can import pages into a wiki from a file; this includes only members of the "importer" group and stewards.

To import wiki pages from your computer, simply click browse to locate the file on your local file system.

Editing the import file

In the case of upload import, because of the simple readable file format the XML file can easily be edited between exporting and importing. This should be done with caution and integrity, one can make antedated edits and use false user names, and in combination with deletion, one can "[change history](#)". Applications of this editing include:

- adding a note to the edit summary about the importing
- changing user names and/or page names to avoid name conflicts (just between the title tags and between the username tags or also in links and signatures)
- changing namespace names into the generic or the applicable ones (ditto)

Note that if two versions of the page have the same timestamp (because one was uploaded with the same timestamp as a preexisting version), the later (imported) version will show up in the edit history but not in the article itself.

See [mw:Manual:XML Import file manipulation in CSharp](#) for an example of working with these XML files in Visual Studio .NET C#.

Merging histories and other complications

See also [mw:Manual:Importing_XML_dumps#Troubleshooting](#).

If the import includes history information, and the edits involved a user name which in the importing project is used by somebody else, then upload import should be applied, and the occurrences of the user name in the XML file should first be replaced by another name, to avoid ambiguity. If the user name was not used yet in the importing project then the user contributions are available anyway, although an account is not automatically created.

Just like when a page is referred to in a link, and/or put in a URL, generic namespace names are automatically converted, and if a prefix is not a namespace name the page will arrive in the main namespace. However, e.g. "Meta:" may be ignored (dropped) on a project that uses that prefix for interwiki linking. It may be desirable to change it in the XML file to "Project:" before importing.

If a page name exists already, importing revisions of a page with that name causes the page histories to be merged. Note that after inserting a revision between two existing revisions in the page history, the change made by the user who made the next edit seems different from what it actually has been: to see the actual change made by the user one has to take the diff between the two already existing revisions, not the diff with respect to the inserted one. Therefore this should not be done except to reconstruct the true page history.

A revision is not imported if a revision of the same date, and exactly the same time up to the second, exists already (beware that this doesn't seem to happen in all cases). In practice this occurs only when the revision has already been imported before, or when the revision one attempts to import was imported the other way around, or both were imported from a third site.

An edit summary may refer to, and possibly link to, another page. This may be confusing when the page has been imported but the target page has not.

The edit summary does not automatically show that the page has been imported, but in the case of upload import that can be added to the edit summaries in the XML file before importing. That can avoid some potential sources of ambiguity and/or confusion. When editing the XML file with find/replace, note that adding a text to the edit summaries requires distinguishing between edits which already have an edit summary, hence comment tags in the XML file, and those without these tags. If there are multiple pairs of comment tags, only the last one is effective.

User contributions

Without provisions for user name conflicts, the user contributions list shows:

- the edits by the person registered under the user name concerned on the project
- for each wiki from which pages have been imported, the edits of imported pages before import, by the user who on the source project has the user name concerned

If at the time of import the page did not exist yet on the target site, the two can be distinguished by comparing the time of import with the time of the edit.

If the user page and user talk page do not have a user contributions link in the page margin then the user is not registered, so all their edits are imported.

Large-scale transfer

For a large-scale transfer, somebody with sufficient system privileges can move data within the server, which is more practical than sending large XML files from the server to a user's local computer and then back to the server.

Large files may be rejected for two reasons. The PHP upload limit, found in PHP configuration file `php.ini`:

```
; Maximum allowed size for uploaded files.
upload_max_filesize = 20M
```

And also the hidden variable limiting the size in the input form. Found in the mediawiki source code, *includes/specials/SpecialImport.php*:

```
<input type='hidden' name='MAX_FILE_SIZE' value='20000000' />
```

Maybe you should change the following four directives in `php.ini`:

```
; Maximum size of POST data that PHP will accept.
post_max_size = 20M
```

```
max_execution_time = 1000 ; Maximum execution time of each script, in seconds
max_input_time = 2000 ; Maximum amount of time each script may spend parsing request data
```

```
; Default timeout for socket based streams (seconds)
default_socket_timeout = 2000
```

See also

- [data dumps](#) describes the maintenance script `maintenance/importDump.php` which provides an alternate import mechanism, but hasn't always remained in working order with recent MediaWiki releases
- [Importer](#)

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Help:Automatic conversion of wikitext

Depending on the wikitext in the edit box, when clicking on "Save page" the wikitext may be automatically modified before saving. The result of this **automatic conversion of wikitext (pre-save transform)** is shown when pressing "Show changes". The rendering is shown with " Show preview". The conversion does not display in the edit box (save and press Edit again to see the result in the wikitext there).

Cases in which this occurs:

- Substitution
- Tildes:
 - `~~~` gives a signature without time or date
 - `~~~~` gives the time and date, e.g. 08:56, 2 July 2010 (UTC)
 - `~~~~` gives a full signature, i.e. it combines `~~~` and `~~~~`
- Pipe trick

If such code is put in a template with the intention of being applied when the template is substituted, care should be taken to prevent premature conversion of wikitext (i.e., when the template is saved). One way is to provide part of the code as default value of an unused parameter. Since the empty string is a possible but for other purposes uncommon parameter name, it is usually a suitable choice for the name of this unused parameter, for example:

- `{{{|safesubst:}}CURRENTTIME}}`
- `{{{|~~}}}`~
- `[[abc (def)|{|{|}}]]`

The third example is hardly useful, and just given to illustrate the analogy with the other two cases.

Another method is with `<includeonly>` tags.

Also, a template parameter can be used to control whether the conversion is applied when the template is substituted. For example, `{{{|subst1|}}CURRENTTIME}}` converts if the value of parameter `subst1` is equal to `subst:` or `safesubst:`, and not if it is empty or undefined.

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Limits

These automatic conversions of wikitext will not work within `<ref>...</ref>` and `<gallery>...</gallery>`.^[1]

Notes

- Pre-save transform skips extensions using wikitext (gallery, references, footnotes, Cite, status indicators, pipe trick, subst, signatures) (http://phabricator.wikimedia.org/T4700) - phabricator.wikimedia.org

See also

- Help:Recursive conversion of wikitext

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Help:Edit conflict

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This page discusses **edit conflicts**, and how to deal with them. To understand what an edit conflict is, consider the following situation:

- Alice clicks "Edit this page" on a page.
- Bob clicks "Edit this page" on the same page while Alice is editing.
- Alice finishes her edits and clicks "Save page". The page is saved with Alice's version while Bob is still editing.
- Bob finishes his edits and clicks "Save page". Bob gets an "**edit conflict**" page.

Layout of the edit conflict page

At the top of the edit conflict page is an editing box containing Alice's version of the whole page, even if Bob is doing section editing.

At the bottom of the edit conflict page is a second editing box containing the text Bob was going to submit. This will be Bob's version of the page or section he was editing.

Between the two editing boxes is a diff that show the difference between Alice's and Bob's version of the article. For the section Bob is editing it shows Bob's changes and Alice's possible changes, except for sections where Bob and Alice have both made the same change. For the other sections it shows the full new text as if all that text was added.

Bob can edit in the upper editing box and press Save. *In the case Bob was editing only a section, this will be interpreted as the new version of the section, hence produce duplication of the other sections, unless Bob deletes them before saving.* (This seems to be a bug.) The best solution in this case is to *save your new text* (e.g., to the (software), cancel out, then try again.

At certain times when pressing Save and the system is slow, one may be able to make multiple edits to the same page before the system responds. *This produces an **edit conflict** with oneself.* In this case the upper text may be the old version instead of the one involving the first edit, i.e., the system notices the earlier change but has not processed it yet. A moment later, while one is viewing the edit conflict page, the first change is carried out in the background, and the upper text no longer is the current one. Hence, the diff shows the combined edit, and in the case of section editing, like before, the "addition" of the other sections. If you choose to save your work in this type of edit conflict, it will result in the removal of your previous editing from the page.

Resolving an edit conflict

If Bob only made a few small changes and Alice made large changes, he may choose to work from Alice's version, and re-merge his changes in. Bob might choose to add some text like "via edit conflict" to the edit summary, or use template {{edit conflict}} on a Discussion/Talk page, to warn Alice and others that he had to do this – Alice can then peer review his merging for accuracy.

If Bob made large changes, and Alice made small changes, he may choose to work from his version. One option is for Bob to copy the bottom text into the top text (or just copy over the one section of the top text, if Bob was section editing), with an appropriate edit summary (e.g., "via edit conflict, will remerge"). Then Bob can view the page history, determine Alice's changes, and re-apply them to his version, in a separate edit.

If both Alice and Bob made large changes, matters become complicated, and Alice and Bob just have to do the best they can. For example, if both Alice and Bob simultaneously add a large section of text on the same subject, then it may be best for Bob to submit his changes, and then for Alice and Bob to both have a look at the two versions and decide between themselves which version is better.

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Bob should not just post his changes over the top of Alice's. We assume good faith – mistakes are occasionally made, and newcomers may not understand the edit conflict window. However, Bob must not routinely ignore edit conflicts. It is absolutely not acceptable for Bob to overwrite Alice out of laziness. We encourage contributors to double-check their merges by using the [diff](#) feature.

Logical edit conflicts

(This is a conflict between editors that is undetectable by the mechanism that decides whether to give the "edit conflict" message.)

Some people edit by copying the source text into a text editor, making lots of changes (reorganising, adding new content, etc.), and then, when they're done, pasting the whole thing back onto a wiki as a single (new) edit. If someone else has made changes in the meantime these changes would get lost in the paste back. People who edit in this manner should either:

- paste only into the same edit box that was originally copied from, or
- check the page history for such edits, and merge the changes before pasting back.

Mistakes

Sometimes mistakes will be made in the merging process, because Bob is human, and this may cause some of Alice's changes to be accidentally reversed. Logical edit conflicts aren't always immediately visible. Sometimes Bob may have good reasons for thinking that Alice's improvements aren't useful. In these case, Alice and Bob are expected to resolve their differences amicably.

If Alice made a small change, which Bob accidentally reversed, then Alice must not revert to her version. It is absolutely not acceptable for Alice to reverse Bob's major improvements to the page out of a desire to protect her minor improvements, or to punish Bob for his carelessness. This is particularly important if the page has subsequently been edited by, say, Sarah and Jonathan.

The best approach for Alice in this circumstance is for Alice to edit Bob's version, reinstate her minor improvements, and leave Bob's major improvements intact. She may also add something to the edit summary to indicate that she had to do this – for example: "Reinstating link which Bob accidentally removed". Bob should then apologise to Alice for his mistake, and thank her for reinstating her improvement.

If Bob repeats his error, then the best approach is for Alice to have a friendly word on his talk page, point him to this page, and ask him if he could take a little more care in the future. This is particularly important for newcomers, who may not understand the correct way to resolve edit conflicts, though even experienced users may need the occasional friendly **reminder**.

Reverting

When saving a previous version (i.e., when reverting) or a new version based on that (a modified reversion) the edit conflict warning and prevention system is not triggered and a possible new edit made in the meantime is unintentionally reverted also, see [Reverting a page to an earlier version](#). To avoid this problem one can copy the text from the edit box of the old version into the edit box of the latest version. In some sense, this can cause *hidden edit conflicts*: you may overwrite someone else's changes without realising that you are doing so. It's always wise to check the [diff](#) after performing a revert, just as you would after posting via edit conflict. Preferably, one can simply try to avoid reversion wars.

Prevention

Because edit conflicts are irritating and time-consuming, you may choose to alter your editing habits to render them less frequent: aiming to make more edits to pages that have not been edited recently.

Another means of avoiding edit conflicts is to make a single larger change, rather than frequent smaller changes: this makes it more likely that you will get an edit conflict, but less likely that you will cause others to get an edit conflict. Using the "[Show preview](#)" button helps here.

To reduce the chance of edit conflicts, some wikis (e. g. this wiki and Wikipedia) have an "In Use" notice in their [Template](#) namespace that people may use when editing a page over a long period of time. Simply put {{inuse}} (name may differ) on an article before proceeding with a major edit, and remove the template when the editing is complete.

New since v.1.3 is CVS-style edit conflict merging, based on the diff3 utility. This feature will only trigger an edit conflict if users attempt to edit the same few lines. See also [automatic merge](#).

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Help:Page size

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[日本語](https://meta.wikimedia.org/w/index.php?title=Help:Page_size/ja&uselang=ja) (https://meta.wikimedia.org/w/index.php?title=Help:Page_size/ja&uselang=ja)

There are questions and controversy on how large a page should be due to the problems with editing pages over a (what is now) relatively small size. Older browsers can have problems editing pages that exceed 32K. Now, an article needs to be as long as necessary to properly carry the content, but where it becomes necessary to shrink an article there are options that may be used.

- Use transclusion. The use of template macros, which are referenced via **{{macro_name}** or **{{macro_name|parameters}** (where the *parameters* are dependent on what the macro does) can be used to include boilerplate text or text altered by the parameters in an article without having to include the coding to create that text directly in the article. It can also be used to have a series of articles have the same header or footer and make them consistent.
- Use subsidiary articles. When there is material which is tangential to the article, or related to the article's subject matter, but are in-depth coverage of a subsidiary subject related to the article, it may be appropriate to move that material to a secondary article. For example, in the article on w:chess, the subject of the rules is in a separate article with the heading *Main article: w:Rules of chess*.
- Place items that are related to the article and can be separated in a section called **See Also**.

Contents

Finding the size of the wikitext of a page

Image size

See also

Links to other help pages

Finding the size of the wikitext of a page

There is a parser function PAGESIZE.

Examples:

- "{{PAGESIZE:Help:Template}" gives "87,833" [1] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BPAGESIZE%3AHelp%3ATemplate%7D%7D%22)
- "{{PAGESIZE:Help:Template|R}" gives "87833" [2] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BPAGESIZE%3AHelp%3ATemplate%7cR%7D%7D%22)

In older versions of MediaWiki finding the size of the wikitext of a page can only be done indirectly:

- search; use suitable search terms to get few other results; e.g. for Help:Variable one can use the search terms:

de Wikipedia Variablen zh Help 变量

which conveniently gives no other results, and shows that the size is, at the time of this writing, "0.8KB (142 words)".

- for a page in the main namespace, also Special:Shortpages and Special:Longpages can be used.
- the text can also be copied in a local editor and saved; note that small deviations can be due to newline taking one or two bytes.

Image size

The size of an image or other uploaded file is shown in

- the entry of the image history
- Special:Imagelist
- Special:Newimages
- on the category pages of the categories that contain the image.

See also

- [Sections vs. separate pages vs. transclusion](#) - advantages and disadvantages of large pages.

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Page_size) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Page_size) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Page_size) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Page_size) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Page_size)

Reading

[Go](#) · [Search](#) · [Stop words](#) · [Namespace](#) · [Page name](#) · [Section](#) · [Backlinks](#) · [Redirect](#) · [Category](#) · [Image page](#) · [Special pages](#) · [Printable version](#)

Tracking changes

[Recent changes](#) ([enhanced](#)) | [Related changes](#) · [Watching pages](#) · [Diff](#) · [Page history](#) · [Edit summary](#) · [User contributions](#) · [Minor edit](#) · [Patrolled edit](#)

Logging in and preferences

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Editing

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Style and formatting

[Wikitext examples](#) · [CSS](#) · [Reference card](#) · [HTML in wikitext](#) · [Formula](#) · [List](#) · [Table](#) · [Sorting](#) · [Colors](#) · [Images and file uploads](#)

Fixing mistakes

[Show preview](#) · [Testing](#) · [Reverting edits](#)

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Others

[Special characters](#) · [Renaming \(moving\) a page](#) · [Preparing a page for translation](#) · [Talk page](#) · [Signatures](#) · [Sandbox](#) · [Legal issues for editors](#)

Languages:

English ·

[日本語](https://meta.wikimedia.org/w/index.php?title=Help:Page_size/ja&uselang=ja) (https://meta.wikimedia.org/w/index.php?title=Help:Page_size/ja&uselang=ja)

Retrieved from "https://meta.wikimedia.org/w/index.php?title=Help:Page_size&oldid=18274456"

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Help:Link

Hyperlinks allow users to easily move between pages. For basic information about wiki-markup in general, see [Help:Editing](#). For various URLs of Wikimedia project pages, see [Help:URL](#).

With MediaWiki it is not possible to code hyperlinks using [HTML](#). Instead there are three general types of hyperlinks, each with associated [CSS formatting](#) to distinguish them: wikilinks, interwiki links, and external links. Besides linking, each provides important additional features specific to wikis, such as automatic broken-link detection for wikilinks, and automatic numbering of external links when used as references.

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Wikilinks

A **wikilink** is an internal link to another page or page-section within the same wiki. MediaWiki automatically checks if the target of a wikilink exists ("existence detection"). If the page doesn't exist, the link leads instead to the editing screen, and it is assigned the class "new". Such wikilinks are nicknamed "red links" because they are colored red in the default stylesheet on a default installation of MediaWiki. "Red links" are useful in determining the current status of the page (created or not created), create links to future pages, and facilitate and encourage creation of new pages. Also, through "What links here" applied to the non-existing page they provide indirect links to other pages with the same red link.

A link to a non-existing page in the MediaWiki namespace for an existing system message counts as a link to an existing page.

Syntax

MediaWiki defines a wikilink as a closed set of inward facing square bracket pairs '[[]]'. The link target is the sequence of characters immediately following the first bracket pair until pipe '|' or the opposing bracket pair ']]' is encountered (read from left to right). The link target can be another page on the wiki, a section on the same page as the link, or a section on another page on the wiki.

- Inter-page links: Links of the form [[page_name]] link to the page that exactly matches that "page_name".
- Intra-page links: Links of the form [[#link_name]] link to the first section on that same page, that has a heading (or anchor -- see below) which exactly matches that "link_name".
- Inter-page "intra" links: Links of the form [[page_name#link_name]] link to the matching section of the matching page, see section linking.

The wikilinks syntax also includes various formatting-options to control how a link and its visible text appear.

Basic Wikilink Syntax

<i>Code</i>	→	<i>Result</i>	<i>Target</i>	<i>Description</i>
[[a]]	→	<u>a</u>	a	The simplest wikilink
[[a b]]	→	<u>a b</u>	a b	Multiple words
[[a blc d]]	→	<u>c d</u>	a b	Link targets 'a b' but displays 'c d' *
[[a b]]c	→	<u>a bc</u>	a b	The link label is the link target, with its last word extended to a longer word (technically called linktrail, defined per language)
<nowiki>[[a]]</nowiki>	→	[[a]]	∅	Text is displayed as typed without the properties of a link
entered: [[a (b)l]], converted to: [[a (b)la]]	→	<u>a</u>	a (b)	A pipe ' ' immediately before the closing bracket pair ']]' creates a piped link which hides the part in parentheses when it is displayed *,***
entered: [[a, b]], converted to: [[a, bla]]	→	<u>a</u>	a, b	A pipe ' ' immediately before the closing bracket pair ']]' creates a piped link which hides the comma and what follows when it is displayed *,***
entered: [[w:a]], converted to: [[w:ala]]	→	<u>a</u>	w:a	A pipe ' ' immediately before the closing bracket pair ']]' creates a piped link which hides the first prefix of the link when it is displayed *,**,***
entered: [[w:a (b)l]], converted to: [[w:a (b)la]]	→	<u>a</u>	w:a (b)	A pipe ' ' immediately before the closing bracket pair ']]' creates a piped link which hides the first prefix of the link and the part in parentheses when it is displayed *,***
entered: [[mediawiki:1 movedto2l]]	→	<u>mediawiki:1 movedto2</u>	Mediawiki:1 movedto2	
entered: [[mediawiki:1 movedto3l]]	→	<u>mediawiki:1 movedto3</u>	Mediawiki:1 movedto3	

Wikilink Tricks & Demos

<i>Code</i>	<i>→</i>	<i>Result</i>	<i>Target</i>	<i>Description</i>
<code>[[al bc]]</code>	→	<u>bc</u>	a	The wiki markup treats the second pipe ' ' as regular text *
<code>[[al b]]c</code>	→	<u>bc</u>	a	'c' is appended to the end of the link text, targets 'a' -- (Good for adding a plural-'s') *
<code>a[[b]]</code>	→	<u>ab</u>	b	'a' immediately precedes the link text but is not included
<code>[[a]]<nowiki>b</nowiki></code>	→	<u>ab</u>	a	'b' immediately follows the link text but is not included
<code>[[a]]"b"</code>	→	<u>ab</u>	a	Using double apostrophes " around 'b' to make it italicized excludes it from the link text
<code>[[a]]'"b'"</code>	→	<u>ab</u>	a	Using triple apostrophes ' around 'b' to make it bold excludes it from the link text
<code>[[al b]]c<nowiki>d</nowiki></code>	→	<u>bcd</u>	a	Translates like <code>[[al bc]]<nowiki>d</nowiki></code> *
<code>[[a]][[b]]</code>	→	<u>ab</u>	a , b	Two links next to each other, looks like <u>ab</u> when not hovered over with a <u>cursor</u>

* Links with parameters (the link name) are said to be "piped" because of the pipe symbol used. See [help:piped links](#)

** Regardless of whether the prefix is an interwiki link prefix, a namespace prefix, or just some text with a colon.

*** Does not work with #-wikilinks ([intra-page links](#)): renders any `[[#xxxx|]]` as pure text.

"`[[a]]`" → "a" [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5B+a+%5D%5D%22&removecomments=true>) (spaces are preserved, but the link target is the page with the name obtained by removing them)

"`[[a]]`" → "`[[a]]`" [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5B%0da%5D%5D%22&removecomments=true>) (a newline is not allowed in the link target or link label)

Note that the image, category, and interlanguage syntax are the same as the wikilink syntax. Attempting to link normally will place the image on the page, add the page to the category and create an interlanguage link at the edge of the page. This can be prevented by prefixing a colon, which escapes the specific syntax. For example, `[:Category:Help]`, `[:fr:Help:Link]`, and `[:File:Mediawiki.png]`.

In the case of a link to a local, non-existing, dynamically generated image description page of an image on Commons, this page is counted as existing for links on pages, e.g. [File:Cow-on pole, with horns.jpeg](#), but not for links in edit summaries and logs.

The existence of an internal link from a page to an existing or non-existing page is recorded in the [pagelinks](#) table.

The maximum link length (before optional bar character) is 255 bytes, after expansion of `.` and `/` and UTF-8 encoding.

Stub feature

A wikilink to an existing page will be in class 'stub' if the page is in the main namespace, it is not a redirect, **and** the number of bytes of the wikitext is less than the "threshold for stub display" set in the [user's preferences](#).

This allows users to immediately identify links to very short pages that probably need to be expanded, and links to short disambiguation pages. Alternately, a user may set a very high threshold to achieve any of the following:

- Identify links to very large pages. However, the criterion is the size of the wikitext; possible inclusion of templates and images can make the rendered page large, even if the amount of wikitext is small.
- Determine at a glance whether a link leads to the main namespace or not. However, this does not take into account *redirects*

to the main namespace (even if the redirect itself is in the main namespace).

- Identify links to redirects, for clean-up work such as bypassing redirects.

However, section linking to a "stub" does not work. Although this is normally a minor issue, this may cause problems with users who set a very high threshold.

Interwiki links

An **interwiki link** links to a page on another website. Unlike the name suggests, the target site need not be a wiki, but it has to be on the [interwiki map](#) specified for the source wiki. These links have the associated CSS class "extiw". These are in the same form as wikilinks above but take a prefix which specifies the target site. For example, on Wikimedia projects (except Wikipedias) and many other wikis `[[wikipedia:Main Page]]` links to the main page of the English Wikipedia. The prefix can be hidden using the same piped syntax as wikilinks.

An interwiki can also link to a section or other anchor, see [section linking](#).

Interwiki links back to same project

Although interwiki links can be used to point to a wiki from itself, this is not generally recommended. MediaWiki does not detect whether or not the target page of an interwiki list exists, so there is no special formatting and the link is always to the view page. Further, MediaWiki does not check if the page is linking to itself. A [self wikilink](#) is bolded (like [Help:Link](#)), whereas a self interwiki link is normal ([m:Help:Link](#)).

Pros:

- A copy of the wikitext on a sister project may still point to the same page. Sometimes two prefixes are needed for that purpose, e.g. [w:de:a](#).

Cons:

- Link has non-standard appearance
- No existence-detection for target page

External links

External links use absolute URLs to link directly to any webpage. These links have the associated CSS class "external". An external link can be of the form `[http://www.example.org link name]`, with the link name separated from the URL by a space, and giving [link name \(http://www.example.org\)](#). A link without link name is automatically numbered: `[http://www.example.org]` gives [\[3\] \(http://www.example.org\)](#). A URL without square brackets gives a link displaying the URL: `http://www.example.org` gives [http://www.example.org](#). Without "http:": `[//www.example.org link name]` gives [link name \(https://www.example.org\)](#), `[//www.example.org]` gives [\[4\] \(https://www.example.org\)](#); however, `//www.example.org` gives `//www.example.org` (no link).

To show a URL (including "http://") without link, use e.g. `<nowiki>http://www.example.org</nowiki>` giving `http://www.example.org`.

Unlike in the case of internal links, characters immediately after the closing bracket are not added to the link label: `[http://www.example.org a]s` gives [a \(http://www.example.org\)](#)s.

See [URLs in external links](#) for more detailed information.

E-Mail Links

Links to an E-mail address work the same way that external links do, except they require the prefix `mailto:.` E-mail links are in the form of `[mailto: anyone@example.org address name]` (resulting in [address name \(mailto: anyone@example.org\)](#)), with the link name separated from the address by a space. Addresses without names will automatically be numbered:

`[mailto: anyone@example.org]` becomes `[5] (mailto: anyone@example.org)`. Addresses without square brackets will not be rendered as link, e.g. `anyone@example.com`. It's possible to make CC with `[mailto: anyone@example.org? cc= anyone2@example.org address name]` (resulting in `address name (mailto: anyone@example.org? cc= anyone2@example.org)`). The subject could be added `[mailto: me@me.com? subject=Me]`

Same project, special page


External links support various special optional URL parameters in their linking-code. These allow links directly to the edit history of a page, to a page in edit view, a diff of two versions, et cetera. They can also be used to create a navigational image.

For portability, use "fullurl" where the URL should depend on the project.

Arrow icon

MonoBook skin produces an arrow icon after every external link. This can be suppressed with `class="plainlinks"`:

- `[http://a a]` gives [a \(http://a\)](http://a)
- `[http://a a]` gives [a \(http://a\)](http://a)

With some special code on MediaWiki:Common.css such as on m:MediaWiki:Common.css, external links to PDF files have their own icon . On this site with your current settings `http://a.pdf` gives <http://a.pdf>.

Skipping a number

To skip a number in the automatically numbered external links (for whatever reason), use e.g. `[http://a]`: `[6] (http://meta.wikimedia.org)[8] (http://meta.wikimedia.org)`.

Note that a false condition of a ParserFunction, or a template like `template:void (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Void&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Void&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:void&limit=1000))` does not work, because counting the links is done after expansion of templates and parser functions.

Linksearch

Special:Linksearch (an extension installed on Wikimedia wikis, `[9] (http://svn.wikimedia.org/viewvc/mediawiki/trunk/extensions/LinkSearch)`) finds all pages linking to a given URL. Using the externallinks table it provides for a given external link pattern a list of source page names on the wiki concerned (linked) with for each the full link target (also as a link). One can either search all namespaces or a selected one. A leading wildcard `*` can be used to search links to a whole top-level domain (e.g. `[10] (http://en.wikipedia.org/wiki/Special:Linksearch?title=Special%3ALinksearch&target=*.nl)`), or a second-level domain (e.g. `[11] (http://en.wikipedia.org/wiki/Special:Linksearch?title=Special%3ALinksearch&target=*.ns.nl)`), etc. In the case that a full domain name is specified, one can additionally specify the rest of the URL, or the first part of that (a wildcard at the end is implied), e.g. `[12] (http://meta.wikimedia.org/wiki/Special:Linksearch?title=Special%3ALinksearch&target=en.wikipedia.org/wiki/Portal)`.

Remarks:

- Do not put "http://".
- The colon in the URL may cause the program return no results.
- A MediaWiki page name in a URL has underscores instead of spaces. Also the URL specified in Linksearch requires writing underscores.
- Even if multiple URLs lead to the same target, with regard to capitalisation, multiple underscores, and using "index.php" or not, Linksearch is case-sensitive and also does not find alternatively written URLs. Therefore, when creating an external link, for optimal use of Linksearch, use a canonical form for the URL. In particular, if after following a link the address bar shows a modified URL, change the URL in the link to that.
- The list is Help:Alphabetic_order#alphabetic in the URL. Note that an underscore, unlike a blank space, is alphabetically positioned between "Z" and "a".

Backlinks

Commonly, a link to a normal page on the same project is in internal link style. An advantage is the existence detection. Also, if some links are in internal and some in external link style, we need both "[What links here](#)" and [Linksearch](#) for finding all backlinks. However, especially for a link to a section or explicitly-set anchor, one could put an internal link and also, with CSS style "display:none", an external link, to provide [backlinks](#).

External link style is also superior to interwiki link style. The URL specified for Linksearch can even contain an anchor (see below), or the first part of an anchor. Therefore Linksearch can find backlinks of sections and explicit anchors. In this regard external links are even superior to internal links. We can combine the advantages of internal and external link style by putting both, but hiding the external links: http://...

Anchors

See also: [Template:Anchor](#)

Linking to anchors

Links of the form [[#anchor_name]] will link to the first anchor on the page matching that "anchor_name", usually the first identical section heading.

An #anchor_name can also be appended to the page name in any type of link, thus linking to the first identical section heading (or anchor) of the **named** page:

[[Help:Editing#Links]], [[m:Help:Editing#Links]],

<http://meta.wikimedia.org/wiki/Help:Editing#Links>

Automatic anchors

Section headings automatically act as anchors, with the heading text as the "anchor_name". In the case of multiple sections with identical headings, the anchor name of each has "_2", "_3", etc. appended, starting from the second occurrence.

The anchor [#toc](#) links to the table of content of the page, unless there is a section titled "toc".

Manual anchors

Manually-set anchors are useful for linking to "unlinkable" things like a table (title or cell), a section of plain text, etc. For example, in the [Wikilink Tricks & Demos table](#) above, though the "Wikilink Tricks & Demos" title-text appears like a (minor) heading, it is not, and the otherwise perfectly normal wikilink [[#Wikilink Tricks & Demos]] will not work.

There are a number of ways to set an anchor at an arbitrary position:

- On some wikis, a [template](#) called "anchor" exists, e.g. [template:anchor](#) ([talk edit](#) (<https://meta.wikimedia.org/w/index.php?title=Template:Anchor&action=edit>) [history](#) (<https://meta.wikimedia.org/w/index.php?title=Template:Anchor&action=history>) [links](#) (<https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:anchor&limit=1000>)) and [w:template:anchor](#) ([talk edit](#) (<https://en.wikipedia.org/wiki/template:anchor?action=edit>) [history](#) (<https://en.wikipedia.org/wiki/template:anchor?action=history>) [links](#) (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:anchor?limit=1000>)), providing a simple, standardized method for that wiki.
- Generic anchor: some text. For a hidden anchor, omit the text. See [Section linking with arbitrary id](#) on this page.
- Manual HTML headings (discouraged): <h2>How to Edit</h2>. Text is anchor_name.
- In some cases, inserting an HTML-like ID attribute into an (existing) Wiki-element. For example, from the [Wikilink Tricks & Demos table](#) above:

- The reserved name [[#top]] always links to the top of a page.

See also [Help:Section#Section_linking](#).

Linksearch anchors

As mentioned above, if external link style is used, e.g. [13] (http://meta.wikimedia.org/wiki/Help:Section#Section_linking), we can use [Special:Linksearch](#): [14] (<http://meta.wikimedia.org/wiki/Special:Linksearch?title=Special%3ALinksearch&target=meta.wikimedia.org/wiki/Help>).

Since Linksearch allows specifying the first part of an anchor, it is useful, if anchor names are numerical or have a numerical end, to use leading zeros. Otherwise, when searching for links to e.g. "1", we also get links to "10", etc. This is e.g. applied in [w:Portal:Current events/DateHeader2](#). More generally, if there are anchors "a" and "ab", it may or may not be desired that a search for links to "a" also gives links to "ab"; if not, use an anchor "_a".

Index-style anchors

If anchor names have multiple components, it is useful to put the most significant component first, e.g. if anchors indicate months or dates, we could have the format YYYY-MM, or YYYY-MM-DD, or in a year page MM-DD (see also [15] (http://en.wikipedia.org/wiki/Calendar_date#Big_endian_forms.2C_starting_with_the_year)), with leading zeros (see also [16] (http://meta.wikimedia.org/wiki/Help:Date_formatting_and_linking#Link_to_date_content_other_than_required_for_autoformatting)).

This applies also for page names, but since these are highly visible, as opposed to anchors, other considerations play a role too. In the case of sections, if for link targets another naming scheme is desired than for display of section headings, explicitly put anchors instead of using section names. This is applied in [w:Portal:Current events/DateHeader2](#), where the use in links of the names of explicitly put anchors is enforced by using pseudo sections, with displayed headings that cannot be used as anchors.

Anchors in external links (anchorencode)

In an external link, an anchor can be created conveniently with the parser function [anchorencode](#), for example, "{{anchorencode:Anchors in external links (anchorencode)}}" → "[Anchors_in_external_links_\(anchorencode\)](#)" [17] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Banchorencode%3AAnchors+in+external+links+%28anchorencode%29%7D%7D%22&removecomments=true>), which can be used to form the link [http://meta.wikimedia.org/wiki/Link#Anchors_in_external_links_\(anchorencode\)](http://meta.wikimedia.org/wiki/Link#Anchors_in_external_links_(anchorencode))

Subpage feature

MediaWiki has a [subpage](#) feature, although activation depends on project and namespace. If activated, the following applies (if not, "A/b" is just a page with that name).

A [tree structure](#) of pages is established by using forward slashes in pagenames: A/b is a child of A, hence A is a parent of A/b; also A/b/c is a child of A/b; while A/a, A/b, and A/c are siblings.

At the top of the subpage body links to all ancestor pages are shown automatically, without any corresponding wikitext. The links show up even if the parent page does not exist, but the sequence of ancestors stops before any non-existing ancestor page (e.g., if the grandparent page does not exist, the parent page is not shown either). Like most letters of a page name, the first letter after the slash is case-sensitive; "/subpage" and "/Subpage" are different pages.

[What links here](#) and [Related changes](#) ignore these automatic links.

In the namespace where the subpage feature is activated, any slash in a page name causes a subpage structure, even if unintended.

A list of subpages can be obtained using [Special:PrefixIndex](#).

Variables

On page A:B/c/d, where A is a namespace with the subpage feature enabled, {{BASEPAGENAME}} gives B/c and {{SUBPAGENAME}} gives d

Relative links

Inside a subpage hierarchy the following relative links can be used:

- [[../]] links to the parent of the current subpage, e.g., on A/b it links to A, on A/b/c it links to A/b.
- [[../../]] links to the grandparent of the current subpage, e.g., on A/b/c it links to A.
- [[../s]] links to a sibling of the current subpage, e.g., on A/b, it links to A/s.
- [[../../s]] links to an "uncle" of the current subpage, e.g., on A/b/c, it links to A/s.
- [[/s]] links to a subpage, e.g. on A it is the same as [[A/s]]. Because of this, linking from a namespace where the subpage feature is enabled, to a page in the main namespace with a name starting with "/", requires a workaround: put a colon before the pagename.

Linking to an [anchor](#) of an ancestor does not work; attempting that gives a link to a page with the name consisting of the name of the ancestor followed by "/".

Relative links still work if all pages of a tree are renamed according a name change of the root, including making it a child of a new root. Administrators and other users with the [move-subpages](#) right have an option in [page moves](#) to also move subpages.

See also [w:Wikipedia:Subpages](#), and the example pages [m:Link/a/b](#) and [m:Help:Link/a/b](#). The subpage feature works in both namespaces.

Subpage activation

Wikipedia has this feature activated in all talk namespaces and the user and project namespace. The Meta-Wiki also has it in the main namespace. The default is set in [DefaultSettings.php](#)^[18] (<http://cvs.sourceforge.net/viewcvs.py/wikipedia/phpwiki/newcodebase/DefaultSettings.php?rev=1.21&view=markup>). As of revision 1.21, the following namespaces have it activated by default: Special, Main talk, User and User_talk, Meta_talk, and Image_talk. Settings per project are changed in [LocalSettings.php](#)^[19] (<http://cvs.sourceforge.net/viewcvs.py/wikipedia/phpwiki/newcodebase/LocalSettings.php?rev=1.25&view=markup>).

See also [mw:Manual:\\$wgNamespacesWithSubpages](#).

User space

Subpages of a user page ([[User:Username/Subpage]]) are considered to be in that user's "user space".

Character conversion

In accordance with the rules explained in [Help:Page name](#), conversions are automatically made to [non-literal characters](#) in wiki and interwiki links. For example, "[[Help:Page%20name]]" becomes "[Help:Page name](#)". However, the opposite is true for external links; literal characters are converted into non-literal characters. For example, most browsers will convert ".../wiki/!" to ".../wiki/%21".

A code like %70 in a redirect disables it, although the link works from the redirect page. For a redirect that works, the redirect page shows the canonical form of the target, unlike its preview page, which renders the link in the usual way.

Miscellaneous

Additional effects of links

- [Related changes](#)
- [Backlinks](#), [Linksearch](#)
- [Date formatting](#)
- Using a space after the pipe syntax ([[main Page|]]) produces (perhaps depending on the browser) a space only, not a link (" "), but it is treated as a link for the "what links here" feature.

"Hover box" on links

On some browsers, holding the cursor over a link will show a hover box ("tooltip") containing the text of the link's HTML title attribute. MediaWiki sets this to the target page name (without the possible section indication) if it's a wikilink (the [message with id 'red-link-title'](#) ([talk](#)) if the page does not exist), the page name with prefix if it's an interwiki link, and the URL if it's an external link.

The browser may also show similar info, but with the possible section indication, in the status bar.

For these effects a piped link is useful even if it not followed to the target; for example, for displaying the meaning of an acronym (e.g. [NPOV](#)) or any other remark. It is possible to produce a hover box without a link, see [template:H:title](#) ([talk](#) [edit](#) (<https://meta.wikimedia.org/w/index.php?title=Template:H:title&action=edit>) [history](#) (<https://meta.wikimedia.org/w/index.php?title=Template:H:title&action=history>) [links](#) (<https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:H:title&limit=1000>)). It is also possible to change the contents of the hover box, using markup similar to [[Link title|Display text]], e.g.

"[[w:foot (length)|ft]]" → "[ft](#)" [[20](#)] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5Bw%3Afoot+%28length%29%7C%3Cspan+title%3D%2230.48+cm%22%3Eft%3C%2Fspan%3E%5D%5D%22&removecomments=true>)

For **external links**, it is not possible to add a title attribute to the href element. However, the same effect can be obtained with a span: [<http://www.example.com> www.example.com web site>]:

www.example.com web site (<http://www.example.com>)

Links from a page

One can use the [MediaWiki API](#) to get all links from a page. For example one can use the query [API:Links](#).

Linking to a page from an image

It is possible to use images as links to other pages. For more information, see [use an image as a link to a page](#).

See also

- [Help:Editing#Links](#)
- [Help:URL](#)
- [Help:Self link](#)
- [Help:Template#Restrictions](#) (and the next section)
- [Help:Guide for system administrators for setting up interwiki linking](#)
- [m:Parser testing/replaceInternalLinks](#)
- [m:Parser testing/replaceExternalLinks](#)
- [mw:Links table](#)
- [mw:Interwikimap](#)
- [m:Brokenlinks table](#)
- [Red Link](#)

- [Wikipedia:Canonicalization](#)
- [Special:Mostlinked](#) - shows the number of links
- [Special:Loneypages](#) - list of pages not linked to, by any other page

References

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link) or from [Meta](https://meta.wikimedia.org/wiki/Help:Link) (<https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link) (<https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link) (<https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Link>)

Reading

[Go](#) · [Search](#) · [Stop words](#) · [Namespace](#) · [Page name](#) · [Section](#) · [Backlinks](#) · [Redirect](#) · [Category](#) · [Image page](#) · [Special pages](#) · [Printable version](#)

Tracking changes

[Recent changes](#) ([enhanced](#)) | [Related changes](#) · [Watching pages](#) · [Diff](#) · [Page history](#) · [Edit summary](#) · [User contributions](#) · [Minor edit](#) · [Patrolled edit](#)

Logging in and preferences

[Logging in](#) · [Preferences](#) · [User style](#)

Editing

[Starting a new page](#) · [Advanced editing](#) · [Editing FAQ](#) · [Edit toolbar](#) · [Export](#) · [Import](#) · [Shortcuts](#) · [Edit conflict](#) · [Page size](#)

Referencing

[Links](#) · [URL](#) · [Piped links](#) · [Interwiki linking](#) · [Footnotes](#)

Style and formatting

[Wikitext examples](#) · [CSS](#) · [Reference card](#) · [HTML in wikitext](#) · [Formula](#) · [List](#) · [Table](#) · [Sorting](#) · [Colors](#) · [Images and file uploads](#)

Fixing mistakes

[Show preview](#) · [Testing](#) · [Reverting edits](#)

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Others

[Special characters](#) · [Renaming \(moving\) a page](#) · [Preparing a page for translation](#) · [Talk page](#) · [Signatures](#) · [Sandbox](#) · [Legal issues for editors](#)

Languages:	<p>English · Deutsch (https://meta.wikimedia.org/w/index.php?title=Help:Link/de&uselang=de) · español (https://meta.wikimedia.org/w/index.php?title=Help:Link/es&uselang=es) · français (https://meta.wikimedia.org/w/index.php?title=Help:Link/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Link/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Link/ja&uselang=ja) ·</p>
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Nederlands (<https://meta.wikimedia.org/w/index.php?title=Help:Link/nl&uselang=nl>) ·
português (<https://meta.wikimedia.org/w/index.php?title=Help:Link/pt&uselang=pt>) ·
русский (<https://meta.wikimedia.org/w/index.php?title=Help:Link/ru&uselang=ru>) ·
shqip (<https://meta.wikimedia.org/w/index.php?title=Help:Link/sq&uselang=sq>) ·
中文 (<https://meta.wikimedia.org/w/index.php?title=Help:Link/zh&uselang=zh>)

Retrieved from "<https://meta.wikimedia.org/w/index.php?title=Help:Link&oldid=17947376>"

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Help:URL

Languages:	English · français (https://meta.wikimedia.org/w/index.php?title=Help:URL/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:URL/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:URL/ja&uselang=ja) · русский (https://meta.wikimedia.org/w/index.php?title=Help:URL/ru&uselang=ru) · shqip (https://meta.wikimedia.org/w/index.php?title=Help:URL/sq&uselang=sq)
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For help with URLs in wikitext, see [mw:Help:Links](#). This page is about various URLs of Wikimedia project pages.

Contents

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URLs in external links

A [link](#) in external link style can be of the forms:

target

<http://meta.wikimedia.org/> renders as <http://meta.wikimedia.org/>

[*target label*], with a blank space in between

[\[http://meta.wikimedia.org/ wikimedia\]](http://meta.wikimedia.org/) renders as [wikimedia](http://meta.wikimedia.org/) (<http://meta.wikimedia.org/>) (see also [Help:Piped link](#))

[*target*]

["\[http://meta.wikimedia.org/\]](#) and [\[http://www.w3.org/TR/url/\]"](#) renders as ["\[1\] \(<http://meta.wikimedia.org/>\) and \[2\] \(<http://www.w3.org/TR/url/>\)"](#). Each link displays a serial number 1, 2, 3, ...

The target is a URL which can start with `http://`, `https://`, or `ftp://`. Within square brackets the URL can also start with `//` (no schema at all), a [Protocol-relative URL](#) that uses the same protocol (`http` or `https`) as the current web page.

`file://` does not work by default. If enabled it only works in MSIE. To enable it, add a [\\$wgUrlProtocols](#) entry to [LocalSettings.php](#); see the [\\$wgUrlProtocols](#) in [DefaultSettings.php](#) for example.

All [characters](#) of the URL must be among:

A-Z a-z 0-9 :._\/~%+&#?!=()@

If a URL contains a different character you must convert it; for example, ^ has to be written %5e, the hexadecimal ASCII value with a percent sign in front. You can also write a blank space as an underscore.

Conversion:

```
-----  
" # $ % & ' ( ) * , ;  
%20 %22 %23 %24 %25 %26 %27 %28 %29 %2a %2c %3b  
-----
```

```
-----  
< > ? [ ] ^ ` { | }  
%3c %3e %3f %5b %5d %5e %60 %7b %7c %7d  
-----
```

For the other characters either the code or the character can be used in internal and external links, they are equivalent. The system does a conversion when needed. E.g.

[[%C3%80_propos_de_M%C3%A9ta]]

is rendered as À propos de Méta, almost like À propos de Méta, which leads to this page on Meta with in the address bar the URL

http://meta.wikipedia.org/wiki/%C3%80_propos_de_M%C3%A9ta

while http://meta.wikipedia.org/wiki/À_propos_de_Méta leads to the same.

Parser function urlencode:

- `"{{urlencode:"#$%&'()* , ; ? [] ^ ` { } }}"` → `"%22%23%24%25%26%27%28%29%2A%2C%3B%3F%5B%5D%5E%60%7B%7D" [3]` (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Burlencode%3A%22%23%24%25%26%27%28%29%2A%2C%3B%3F%5B%5D%5E%60%7B%7D%7D%7D%22&removecomments=true>)
- `"{{urlencode:<}}"` → `"%3C" [4]` (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Burlencode%3A%3C%7D%7D%22&removecomments=true>)
- `"{{urlencode:>}}"` → `"%3E" [5]` (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Burlencode%3A%3E%7D%7D%22&removecomments=true>)
- `"{{urlencode:{{!}}}}"` gives `"%7C" [6]` (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Burlencode%3A%7B%7B%21%7D%7D%7D%7D%22&removecomments=true>)

There is an external online converter (<http://wikiurl.miteff.com/>) for encoding custom URLs to mediawiki format.

See also (in Wikipedia): Internationalized domain names and Punycode.

Percent-encoding

For ASCII characters (up to decimal 127, hex. 7F) percent-encoding simply means adding % to the hex. value, e.g. for a tilde ~ (decimal 126, hex. 7E) it's %7E. Otherwise (non-ASCII) convert it first to UTF-8 and then percent-encode it. Example:

1. Convert the character to Unicode, e.g. Latin-1 192 (hex. C0) to À (u+00C0), or windows-1252 131 (hex. 8B) to Š (u+0160).
2. Convert Unicode to bits, 00000000 11000000 (u+00C0), or 00000001 01100000 (u+0160).
3. Build groups of six bits from the right adding leading zeros if necessary until the rest are zeros: 000011 000000 (u+00C0), or 000101 100000 (u+0160).
4. Add **10** in front of all but the leftmost group. 2 bits + 6 bits = 8bits, also known as octet.
5. If there are only two groups, and the first (left) starts with 0:
 1. Add **11** to the left: **11** 000011 **10** 000000 (u+00C0), or **11** 000101 **10** 100000 (u+0160).
 2. Convert the octets to hex., add percent in front, ready: %C3%80 (u+00C0), or %C5%A0 (u+0160).

6. If the first (left) of two groups starts with 1:

Add **111** 00000 **10** to the left, then percent-encode three octets, %E0%??%??

7. If there are three groups, the first (left) starting with 00 (000001 up to 001111):

Replace 00 by 111 0, percent-encode three octets, ready, result %E?%??%??.

8. Otherwise it's at least 010000 000000 000000 (u+10000) needing **four** UTF-8 octets:

1111 0000 10 010000 10 000000 10 000000 would be %F0%90%80%80.

URLs of pages within the projects

See [w:Wikipedia:URLs](#). On other projects everything works the same, except that the domain names vary:

- [xx.wikipedia.org](#) with xx the language code, see [m:Complete list of language Wikipedias available](#)
- [meta.wikimedia.org](#) ([meta.wikipedia.org](#) redirects there)
- [xx.wiktionary.org](#)
- [xx.wikiquote.org](#)
- [xx.wikibooks.org](#)
- [xx.wikisource.org](#)
- [sep11.wikipedia.org](#)

A URL starting with [www.wikipedia.org](#) redirects to the corresponding one starting with en; only [www.wikipedia.org](#) itself leads to a portal page instead of the main page of the English Wikipedia: <http://www.wikipedia.org>

In projects outside Wikimedia the "w/" in URLs like http://www.wikipedia.org/w/wiki.phtml?title=Main_Page&action=history is sometimes not used, sometimes different, e.g.:

- http://www.disinfopedia.org/wiki.phtml?title=Disinfopedia_Main_Page&action=history
- http://wikitravel.org/en/index.php?title=Main_Page&action=history

The default is `/wiki/wiki.phtml`, with in [DefaultSetting.php \[7\]](#) (<http://cvs.sourceforge.net/viewcvs.py/wikipedia/phpwiki/newcodbasedebug/DefaultSettings.php?rev=1.21&view=markup>):

```
-----  
$wgScriptPath = "/wiki";  
$wgScript      = "{$wgScriptPath}/wiki.phtml";  
-----
```

There may be other variations, compare:

- <http://en.wikipedia.org/wiki/Vancouver>
- <http://wikitravel.org/en/Vancouver>

Use in templates

For use in templates, note that all URLs on e.g. the English Wikipedia can be written in the form

`http://en.wikipedia.org/w/index.php?title={{1}}`

This requires `{{1}}` to be written with underscores and escape codes (if applicable), or can be escaped with `{{urlencode:{{1}}}}`. To benefit from the conversion carried out by `fullurl`, two parameters are needed:

`{{fullurl:{{1}}|{{2}}}}`

(see [Template talk:Url 2p](#)). An example with the second parameter in `fullurl` fixed is [w:Template:Ed](#) containing the link `{{fullurl:Template:{{1}}|action=edit}} {{MediaWiki:Edit}} {{{2|{{1}}}}}`.

This works for a link in external link style to a page in the same project. We can use `localurl` for a link to a project which uses the same string in the URL between the server name and the question mark (`$wgScript` ([http://www.mediawiki.org/wiki/Help:\\$wgScript](http://www.mediawiki.org/wiki/Help:$wgScript)), on Wikimedia `"/w/index.php"`), but not for links to other projects.

Old versions of pages

All old versions of all pages are numbered (with `oldid`) approximately in the order of becoming an old version, i.e. in chronological order of the next edit of the same page.

- <http://meta.wikimedia.org/w/wiki.phtml?title=Help:Link&oldid=53587> - normal link to old page
- <http://meta.wikimedia.org/w/wiki.phtml?oldid=53587> - no page name in the URL, goes to the correct page
- <http://meta.wikimedia.org/w/wiki.phtml?title=Help:Link&oldid=53588> - number and name do not correspond; the name is ignored
- <http://meta.wikimedia.org/w/wiki.phtml?title=abc&oldid=53587> - non-existing page name; oldid is ignored, works like going to a non-existing page, except for the links to assumed previous and next versions, and on editing, for the warning of editing an old version of a page.

See also [Linking to specific versions of a page](#).

New pages

Pages are numbered with `page_id` (see [Page table](#)) in order of creation.

- <http://meta.wikimedia.org/w/wiki.phtml?title=x&curid=9906> - gives the page with correct full name

Conversely, most [Query API](#) output provides page names as well as page id's, e.g. <http://meta.wikimedia.org/w/query.php?titles=Hilfe:Zeitleiste>

See also [Multiple titles](#).

From [MediaWiki 1.5](#) page versions get a number "oldid" as soon as they are created; they are produced by variable `{{REVISIONID}}`. The URL is like in the previous section.

Edit

Examples:

- Edit the whole page: <http://meta.wikimedia.org/w/wiki.phtml?title=Help:URL&action=edit>
- Edit the 5th section: <http://meta.wikimedia.org/w/wiki.phtml?title=Help:URL&action=edit§ion=5>
- Add at the end: <http://meta.wikimedia.org/w/wiki.phtml?title=Help:URL&action=edit§ion=1000> (use large section number)
- Ditto with ["Post a comment"](#) feature: <http://meta.wikimedia.org/w/wiki.phtml?title=Help:URL&action=edit§ion=new>

Purge

In some cases of caching problems, to update a page it can help to use "action=purge", in a URL like

```
{{SERVER}}|localurl:{{NAMESPACE}}:{{PAGENAME}}|action=purge}}
```

which results in:

```
//meta.wikimedia.org/w/index.php?title=Help:URL&action=purge
```

Uselang

In some cases it is helpful to link to another Wikimedia project by using the "&uselang" parameter, in a URL like http://commons.wikimedia.org/w/index.php?title=Glavna_stran&uselang=sl. This allows specifying the language (hereby Slovenian) of the interface messages that will be displayed when opening the page 'Glavna stran' in the Commons project.

Miscellaneous actions

You can fetch the raw wikitext of a page using a URL like

```
{{SERVER}}|localurl:{{NAMESPACE}}:{{PAGENAME}}|action=raw}}
```

which results here in:

//meta.wikimedia.org/w/index.php?title=Help:URL&action=raw

Other actions are view, watch, unwatch, delete, revert, rollback, unprotect, info, markpatrolled, validate, render, deletetrackback, and history. (These rarely need to be entered explicitly, as the useful ones are prelinked at various tabs and buttons. Several of these actions require administrator privileges. Other users do not have the link; if they try the URL they get the message in MediaWiki:Badaccesstext.)

Kinds of dead links

There can be various kinds of errors in the URL. With some the server is not even reached, with others the server takes some action. The server may also go to the correct page and just ignore a wrong parameter or anchor.

- [//meta.wikimedia.org{{localurl:%abc}}](#)
- [http://meta.wikimedia.or/](#)
- [//meta.wikimedia.orgabc](#)
- [http://met.mediawiki.org](#)
- [//meta.wikimedia.org/abc](#)
- [http://meta.wikimedia.org/w/index.php?title=Help:URL&action=abc](#)
- [http://meta.wikimedia.org/w/index.php?title=Help:URL&act=abc](#)
- [http://meta.wikimedia.org/w/index.php?title=Help:URL#abc](#)

See also

- [mw:Manual:Parameters to index.php](#)
- [Help:Namespace](#)
- [m:Eliminating index.php from the url](#)
- [\\$wgUrlProtocols](#)
- [m:URI schemes](#) - how to request `worldwind:` and other scheme cruft.

Links to other help pages

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Versions of this help page (for other languages see further)

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Help:Piped link

Languages:	English · dansk (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/da&uselang=da) · français (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/ja&uselang=ja) · русский (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/ru&uselang=ru) · shqip (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/sq&uselang=sq)
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A **piped link** is an internal [link](#) or [interwiki link](#) where the link target and link label are both specified. This is needed in the case that they are not equal, while also the link label is not equal to the link target with the last word extended. This allows linking a word or phrase within the text of a page rather than using "see also", even if the wording does not exactly correspond with the name of the target page. With a suitable browser and depending on the [preferences](#) set, one can still see the link target: when you point at the link, the name shows up in a hover box and is also shown in the status bar.

For instance:

```
[[coffeehouse setup|How to set up a coffee house]]
```

will show: [How to set up a coffee house](#)

Another example would be `[[help:Piped link|station]]` rendering as [station](#). This is useful where the word "station" is used in an article on trains; from the context, it would be clear that a train station is meant. The piped link is more convenient to the user than a link to [station](#) which might be a disambiguation page.

The term *piped* refers to the use of the pipe character "|" used to separate the good description from the actual link. This character is named after an alternative use of it; see [Pipe \(computing\)](#).

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Using a redirect as an alternative

An alternative is simply using [redirect pages](#). To create [How to set up a coffee house](#), use `[[Coffeehouse setup|How to set up a coffee house]]` and make this a redirect to [coffeehouse setup](#) (note that, unlike above, what pops up when you point at the link, if applicable for your browser, is simply the text already shown).

This is convenient if the redirect is already there or will also be of use elsewhere; however, there are a few drawbacks:

- the popup does not show the page one will arrive at
- "[Related changes](#)" gives the changes in the *redirect page* not the redirect target
- the redirect message on the target page slightly clutters it

Combining a piped link and a redirect, one can provide some information that is not the name of the page one links to in the hover box, such as the value of a unit in terms of other units. In that case one can make a page whose pagename is the info one wants in the link title, and which redirects to a page with a more appropriate name. See e.g. w:Template:Ft, containing [[30.48 cm|ft]], with the page w:30.48 cm redirecting to w:Foot (unit of length).

Automatic conversion of the wikitext

Pipe trick

If in a piped link the part after the "|" is left empty, it is converted to an abbreviated form of the page name on the left, as follows:

1. any word before the first colon (:), as well as the colon itself, is removed. This word may or may not be a namespace prefix (such as "Help:") or an interwiki prefix (such as "commons:"). If the page name is preceded by a colon, "first" refers to "first after this".
2. if there is text in parentheses at the end it will be removed
3. if there are no parentheses but there is a comma, the comma and everything after it is removed

Just like for the three or four tildes when signing on Talk pages and the use of subst, in a preview, the result already shows up in the preview itself, but the conversion in the edit box is not yet shown. Press "Show changes" to see the change in the wikitext.

Examples

- [[Help:Templatel]] is converted to [[Help:TemplatelTemplate]], which is rendered as Template
- [[Music: My lifel]] is converted to [[Music: My lifel My life]], which is rendered as My life - although "Music:" is not a namespace (therefore the space after the colon is not automatically removed), the shortcut works anyway
- [[w:en:Pipe (computing)|]] is converted to [[w:en:Pipe (computing)|en:Pipe]], which is rendered as en:Pipe
- [[commons:Boston, Massachusetts|]] is converted to [[commons:Boston, Massachusetts|Boston]], which is rendered as Boston.
- [[w:{{{1}}}|]] does *not* give [[w:{{{1}}}|{{{1}}}], and calling the template with a value of parameter 1 gives a working link in the case of substitution only.
- [[w:en:{{{FULLPAGENAME}}}|]] does *not* give [[w:en:{{{FULLPAGENAME}}}|en:{{{FULLPAGENAME}}}] and [[m:{{{FULLPAGENAME}}}|]] does *not* give [[m:{{{FULLPAGENAME}}}|{{{FULLPAGENAME}}}]
- [[Wikipedia:Village pump (technical)#Pipe trick|]] is not converted, so does not give a working link

```
*[[project:a (b)|]]
*[[w:project:a (b)|]]
*[[[:de:project:a (b)|]]
*[[[wikt:project:a (b)|]]
*[[[wikt:de:project:a (b)|]]
*[[[wikibooks:project:a (b)|]]
*[[[wikiquote:project:a (b)|]]
*[[[wikisource:project:a (b)|]]
*[[w:en:{{{FULLPAGENAME}}}|]] [[w:en:{{{FULLPAGENAME}}}|en:{{{FULLPAGENAME}}}]
*[[m:{{{FULLPAGENAME}}}|]] [[m:{{{FULLPAGENAME}}}|{{{FULLPAGENAME}}}]
```

produces

- a
- project:a
- project:a
- project:a
- de:project:a
- project:a
- project:a
- project:a
- [[w:en:Help:Piped link|]] en:Help:Piped link
- [[m:Help:Piped link|]] Help:Piped link

Category tag

The sortkey syntax of the category being like a piped link, the pipe trick also works for category tags, even though it is not useful there.

Limitation

- [[Help:L{{tc}}k]] using template:tc (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Tc&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Tc&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:tc&limit=1000)) is not converted, so the result is rendered as [[Help:L{ {t1c | . . . } }k]] and not as a working link. This is because the pipe trick expansion, like substitution, occurs before ordinary expansion of templates, etc., while the pipe trick does not work if the linked page contains invalid characters. Thus while ordinarily the acceptability of the target page name is judged after template expansion, the pipe trick expansion judges it before, the braces are considered invalid characters in the page name. Instead one can use a template like template:pipe trick (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Pipe_trick&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Pipe_trick&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:pipe_trick&limit=1000)): {{pipe trick|Help:L{{tc}}k}} gives [[Help:L{ {t1c | . . . } }k|L{ {t1c | . . . } }k]].

Inverse pipe trick

On page "A (c)", [[|b]] is automatically converted to [[b (c)|b]].

Similarly, on page "A, c", [[|b]] is automatically converted to [[b, c|b]].

Syntax for external links

For external links a space is used instead of a pipe character; see Help:Editing.

See also

- w:Help:Pipe trick
- m:Clean linking
- Help:Link#Subpage_feature , which shows how to abbreviate subpage names. (The pipe trick doesn't work as expected for subpages, which some people consider a bug (http://bugzilla.wikimedia.org/show_bug.cgi?id=845).)

Links to other help pages

Help contents

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Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Piped_link) · Wikipedia (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Piped_link) · MediaWiki (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Piped_link)

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Languages:	English · dansk (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/da&uselang=da) · français (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/ja&uselang=ja) · русский (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/ru&uselang=ru) · shqip (https://meta.wikimedia.org/w/index.php?title=Help:Piped_link/sq&uselang=sq)
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Help:Interwiki linking

Languages:

English · (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ar&uselang=ar) العربية · dansk (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/da&uselang=da) · Deutsch (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/de&uselang=de) · français (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ja&uselang=ja) · Nederlands (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/nl&uselang=nl) · русский (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ru&uselang=ru) · shqip (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/sq&uselang=sq) · Tiếng Việt (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/vi&uselang=vi) · 中文 (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/zh&uselang=zh)

By adding a prefix to another project, internal link style ("prefixed internal link style") can be used to link to a page of another project. A system of shorthand link labels are used to refer to different projects, in the context of interproject linking, as seen within the actual source text. For example, `en:` refers to the English Wikipedia. This is seen in `[[:en:Apple]]`, which produces en:Apple, a link to the English Wikipedia article on "Apple".

This is called interwiki. For each project, an interwiki map (a list of target projects with their prefixes) is specified (example (<https://svn.wikimedia.org/viewvc/mediawiki/trunk/phase3/maintenance/interwiki.sql?view=markup>)). These target projects need not use MediaWiki and need not even be a wiki.

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Interwiki linking from and within Wikimedia

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- Prefixes
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- Non-local interwikis

Wikia

Interlanguage links

- In-page interlanguage links
- Interlanguage links in the wider sense

Interwiki links versus external links

Interwiki links to the same wiki versus internal links

See also

Links to other help pages

Interwiki linking from and within Wikimedia

Within Wikimedia, for the purpose of interlanguage links (see below), the project families are Wikipedia, Wiktionary, Wikiquote, Wikibooks and Wikisource. Thus, this applies for a link like `en:`, `de:`, etc., from a Wikipedia to another one, from a Wiktionary to another one, from a Wikiquote to another one, from a Wikibooks to another one or from a Wikisource to another one.

The interlanguage link feature works on Wikimedia Commons and produces links to the Wikipedias. This is not reciprocal, a link from a Wikipedia to Commons is an in-page link.

Project titles and shortcuts

Project	Long form	Shortcut
<u>Wikipedia</u>	[[<u>wikipedia:</u>]]	[[<u>w:</u>]]
<u>Wiktionary</u>	[[<u>wiktionary:</u>]]	[[<u>wikt:</u>]]
<u>Wikinews</u>	[[<u>wikinews:</u>]]	[[<u>n:</u>]]
<u>Wikibooks</u>	[[<u>wikibooks:</u>]]	[[<u>b:</u>]]
<u>Wikiquote</u>	[[<u>wikiquote:</u>]]	[[<u>q:</u>]]
<u>Wikisource</u>	[[<u>wikisource:</u>]]	[[<u>s:</u>]]
<u>Wikisource</u> (multilingual pages)	[[<u>oldwikisource:</u>]]	
<u>Wikispecies</u>	[[<u>wikispecies:</u>]]	[[<u>species:</u>]]
<u>Wikiversity</u>	[[<u>wikiversity:</u>]]	[[<u>v:</u>]]
<u>Wikivoyage</u>	[[<u>wikivoyage:</u>]]	[[<u>voy:</u>]]
<u>Wikimedia Foundation</u>	[[<u>wikimedia:</u>]] [[<u>foundation:</u>]]	[[<u>wmf:</u>]]
<u>Wikimedia Commons</u>	[[<u>commons:</u>]]	[[<u>c:</u>]]
<u>Wikimedia Meta-Wiki</u>	[[<u>metawikipedia:</u>]] [[<u>meta:</u>]]	[[<u>m:</u>]]
<u>Wikimedia Incubator</u>	[[<u>incubator:</u>]]	
<u>Wikimedia Strategic Planning</u>	[[<u>strategy:</u>]]	
<u>MediaWiki</u>	[[<u>mediawikiwiki:</u>]]	[[<u>mw:</u>]]
<u>MediaZilla / Bugzilla</u>	[[<u>mediazilla:</u>]] [[<u>bugzilla:</u>]]	
<u>Phabricator</u>	[[<u>phabricator:</u>]]	[[<u>phab:</u>]]
<u>Testwiki</u>	[[<u>testwiki:</u>]]	
<u>Wikidata</u>	[[<u>wikidata:</u>]]	[[<u>d:</u>]]
<u>WikiTech</u>	[[<u>wikitech:</u>]]	
<u>Tool Labs</u>	[[<u>toollabs:</u>]]	

International chapters	Shortcut
Argentina	[[<u>wmar:</u>]]
Australia	[[<u>wmau:</u>]]
Bangladesh	[[<u>wmbd:</u>]]
Belgium	[[<u>wmbe:</u>]]
Canada	[[<u>wmca:</u>]]
Czech Republic	[[<u>wmcz:</u>]]
Denmark	[[<u>wmdk:</u>]]
Germany	[[<u>wmde:</u>]]
Finland	[[<u>wmfi:</u>]]
Hong Kong	[[<u>wmhk:</u>]]
Hungary	[[<u>wmhu:</u>]]
India	[[<u>wmin:</u>]]
Indonesia	[[<u>wmid:</u>]]
Israel	[[<u>wmil:</u>]]
Italy	[[<u>wmit:</u>]]
Macedonia	[[<u>wmmk:</u>]]
Netherlands	[[<u>wmnl:</u>]]
Norway	[[<u>wmno:</u>]]
Poland	[[<u>wmpl:</u>]]
Russia	[[<u>wmru:</u>]]
Serbia	[[<u>wmrs:</u>]]
Sweden	[[<u>wmse:</u>]]
Switzerland	[[<u>wmch:</u>]]
Taiwan	[[<u>wmtw:</u>]]
Ukraine	[[<u>wmua:</u>]]
United Kingdom	[[<u>wmuk:</u>]]

- Other current Wikimedia prefixes: betawikiversity:, download:, dbdump:, gerrit:, mail:, mailarchive:, outreach:, otrs:, OTRSwiki:, quality:, spcom:, ticket:, tools:, tswiki:, svn:, sulutil:, rev:, wmania:, wm2016:, wm2017:.

- See a complete list of current and old but still working prefixes for all Wikimedia wikis at the Wikimedia SiteMatrix.

Some of the **long forms** don't work as expected within the same project; for example [[meta:]] doesn't work on Meta, while [[metawikipedia:]] does. This depends on the configuration of the wiki and where the names are stored (see also next paragraph). The **shortcuts** work everywhere. *(That is the intention; currently (16-Jan-2007), it does not work on all projects.)*

The interwiki map on Meta lists many prefixes, among others, [[wikipedia:]] for the English Wikipedia, working from any Wiki supporting the Meta interwiki map, not only from MediaWiki wikis. Some prefixes work only with a page, for example: wikipediawikipedia: (fails) vs. wikipediawikipedia:Interwikimedia link (works). These prefixes are case insensitive.

The shortcuts are just interwikis with different histories. Wikipedia, Wikiquote etc. point to the English versions and are also included in the standard MediaWiki interwiki table (IIRC); w, q, b, wikt etc. are used like interlanguage wikilinks to link to the sisterproject in the same language (so w:it:b: is equivalent to Wikibooks:it:).

Non-Wikimedia interwiki codes have a limitation, that they can only be used through a link. For example, the entry for "John" on Wiktionary, a Wikimedia project, can be accessed by [[wikt:John]] or http://meta.wikimedia.org/wiki/wikt:John. However, the latter method does not work for non-Wikimedia wikis. For example, the main page on the Mozilla Wiki can be accessed via [[MozillaWiki:Main Page]], but

http://meta.wikimedia.org/wiki/MozillaWiki:Main_Page results in an error. In these cases, [Special:Search](#) can be used (http://meta.wikimedia.org/wiki/Special:Search/MozillaWiki:Main_Page). You can see [the Interwiki special page](#) for a list of "forward" and "non-forward" prefixes.

Interwiki links on other sites

Other MediaWiki installations will support different interwiki prefixes. You may be able use the [MediaWiki API](#) to query for a site's available interwiki prefixes. Try replacing the `index.php?stuff` on the end of an edit or history URL with

```
api.php?action=query&meta=siteinfo&siprop=interwikimap
```

Technical

A project's own namespace prefix cannot be reused as code for an external project. However, the prefix used for a target project may coincide with the prefix for a project namespace, within that project. As a result, to link to a page in that namespace, use the same prefix twice, for example: [en:Wikisource:Wikisource:Scriptorium](#).

For portability across projects, one may want to select a link code that leads to the same target from all projects, for example: [MetaWikipedia:wikibooks:Main Page](#). The "superfluous" "MetaWikipedia:" prevents "wikibooks:" being interpreted as namespace prefix, when the code is used at wikibooks itself, while at Meta the "MetaWikipedia:" is ignored (it is not a namespace prefix and even at Meta itself, it is recognized as code for Meta). The codes above work from all projects; however, the [existence detection](#) and the [self-link feature](#) do not work on interwiki links.

Prefixes

Interwiki links can use prefixes for the **project** and/or for the **language**. Without the prefix, links are local, for pages in the same project and the same language. If only a language is given, they go to a page in the same (or similar) project for the specified language:

```
[[[:fr:]] fr:
[[[:os:]] os:
```

If only the project is specified, they typically go to the language of the source, see above. At most, two prefixes are needed for pages in any existing project and any supported language:

```
[[[s:de:Hauptseite]] s:de:Hauptseite
[[[b:en:Main page]] b:en:Main page
[[[n:en:Main page]] n:en:Main page
```

If the language is different, specifying it before the project can also work. However, this is **discouraged**, as it may not function as expected on some projects:

```
[[[:de:q:Hauptseite]] de:q:Hauptseite (not recommended)
[[[:en:n:Main page]] en:n:Main page (not recommended)
```

More than two prefixes are generally unnecessary, the following examples should work everywhere:

```
[[[m:Help:Help]] m:Help:Help
[[[w:Interwiki]] w:Interwiki
```

Two prefixes can have unexpected effects, for example, from [Meta](#), the following links end up on different pages:

```
[[[m:en>About]] m:en>About
[[[:en:m>About]] en:m>About
[[[m>About]] m>About
```

In the first case [Meta](#) ignores the `m:`, because it is local and then, interprets `en:` as `w:en:`, the prefix for the [English Wikipedia](#). In the second case, the leading `en:` goes to the English Wikipedia, where the following `m:` goes straight back to [Meta](#).

In other words, multiple prefixes are evaluated left to right by the relevant Wikimedia servers (project and language). For projects without different languages, like Meta (because Meta is multilingual by itself), language prefixes can be handled as shorthands for `w:` plus the specified language:

```
[[[:pl:2006]]]   pl:2006
[[w:pl:2006]]  w:pl:2006
[[[:pl:w:2006]]] pl:w:2006
```

From Meta, the first two links both arrive at the Polish 2006 page. The third arrives at the English Wikipedia, because that's how the server selected by `:pl:` interprets the second prefix `w:`.

For a portable link on that server, it would be a bad idea to use `w:`, but `:pl:` does the trick. To test that effect from Meta, the following links should go to the same page:

```
[[[:ja:2006]]]   ja:2006
[[[:ja:ja:2006]]] ja:ja:2006
```

A universal interwiki link, that is, one that works no matter from which Wikimedia wiki, can be written `[[m:project:language:page name]]` (e.g. m:b:nl:Wiskunde); this routes the parsing of the links via Meta (bug 4285).

Portable links

In short, if you want the links to always work in the same way, always use `[[m:Example]]` to link to anything on Meta-Wiki; always use `[[w:en:Example]]` to link to anything on English Wikipedia; always use `[[q:de:Beispiel]]` to link to anything on German Wikiquote.

Non-local interwikis

Technically, an interwiki defined as local is one which always "forwards" to the destination: such interwikis can always be concatenated. The examples above work because all those interwikis are local in all those wikis. Interwikis which are not local in the wiki where they're concatenated or used directly won't work. The following works:

```
[[MeatBall:AssumeGoodFaith]]   MeatBall:AssumeGoodFaith
```

All these don't ("Bad title" error):

```
[[w:MeatBall:AssumeGoodFaith]]   w:MeatBall:AssumeGoodFaith
https://meta.wikimedia.org/wiki/MeatBall:AssumeGoodFaith   https://meta.wikimedia.org/wiki/MeatBall:AssumeGoodFaith
https://en.wikipedia.org/wiki/MeatBall:AssumeGoodFaith   https://en.wikipedia.org/wiki/MeatBall:AssumeGoodFaith
```

Non-local interwiki links will still work if you type them in the search bar and choose "go".

Wikia

In Wikia, the prefix is the *internal* project name for some older wikis. For others, "Wikia:c:" is added in front (e.g. `[[Wikia:c:psychology]]` or shorter `[[w:c:trains:locomotive]]`). (The "c" is for "city", a legacy of Wikia's original name *Wikicities*.)

Note that `w:` only points to wikia: from other wikis on that same site; on Wikimedia projects, `w:` is the Wikipedia in the same language as the local wiki.

From Wikimedia projects, use `[[wikiasite:psychology]]`, giving wikiasite:psychology; `[[wikia:trains:locomotive]]`, giving wikia:trains:locomotive; or for the central wikia, centralwikia:About Wikia. *Don't confuse this with wikia:c:Community Central and other pages on the Community Central wikia.*

Interlanguage links

For a complete list of current languages and language codes, see: w>List of Wikipedias

For a multilingual family of similar projects, with one project per language, a system for **interlanguage linking** can be set up, setting `$wgInterwikiMagic` to true and `$wgHideInterlanguageLinks` to false. If this project is in a family for which this applies, Help:Interlanguage link demo may demonstrate what is explained below (this depends on whether the same language codes are used).

An interwiki link within the family is treated differently, unless it is on a talk page of any namespace. It appears at one or two edges of the webpage (left in Monobook, top and bottom in Classic).

Thus, an interlanguage link is mainly suitable for linking to the most closely *corresponding* page in another language. It is not suitable for multiple links of the same other language. See **Interlanguage use case** for a discussion of common troubles with this system and other possible implementations.

The feature can also be used on an image description page, to link to the same or a similar image in a sister project. Other interwiki links to images require the prefixed colon.

Note that, if a page may be used as a template (even if it is not in the template namespace), it should note its interlanguage links between `<noinclude>` and `</noinclude>`. This is the same idea as for categories.

Comparison:

- `[[:en:link]]` or `[[:category:name]]` are ordinary links.
- `[[:m:en:link]]` or `[[:m:category:name]]` are interwiki links, see above.
- `[[:category:name]]` without leading colon, adds a category to the page.
- `[[:en:link]]` without leading colon, adds an interlanguage link to the page.
- `<noinclude>[[:category:name]]</noinclude>` limits it to the actual page.
- `<noinclude>[[:en:link]]</noinclude>` also limits it to the actual page.

For projects like Meta, a missing leading colon has no effect, because Meta doesn't support interlanguage links. For Wikipedia and similar projects, it is a major difference. The mutual order of interlanguage links is preserved, but otherwise the positions within the wikitext are immaterial, again the same rule as for categories. Usually they are put at the end. With section editing, they appear in the preview, if they are in the section being edited. A link to the project itself (hence, also a link to the page itself), even if referred to with the project prefix, appears in-page.

Suppose that we have pages de:Zug, en:Train and fr:Train, then we need:

- on de: en:Train, fr:Train
- on en: de:Zug, fr:Train
- on fr: de:Zug, en:Train

Thus, there is no possibility of simply copying each list, let alone of using a template, as can be done, if different languages share one project with or without separate namespaces. For further information, see:

- m:Template:H-langs:Interwiki linking, used at the bottom of this page on Meta
- wikisource:Template:InterLingvLigoj
- Template:About

In-page interlanguage links

To make an interlanguage link in-page, prefix a colon (e.g. `[[:en:wiki|wiki]]`). This can be useful to link to a page in another language, if no local version is available. For example, several templates for conveniently making such links would be:

- w:template:nli (talk edit (<https://en.wikipedia.org/wiki/template:nli?action=edit>) history (<https://en.wikipedia.org/wiki/template:nli?action=history>) links (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:nli?limit=1000>)) - `[[:nl:{{{1}}}]` (in `[[Dutch language|Dutch]]`)
- w:template:nliI (talk edit (<https://en.wikipedia.org/wiki/template:nliI?action=edit>) history (<https://en.wikipedia.org/wiki/template:nliI?action=history>) links (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:nliI?limit=1000>)) - `[{{{1}}}]` (`[[:nl:{{{2|{{{1}}}}}]|nl]]`)
- w:template:nlii (talk edit (<https://en.wikipedia.org/wiki/template:nlii?action=edit>) history (<https://en.wikipedia.org/wiki/template:nlii?action=history>) links (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:nlii?limit=1000>)) - `"[[{{{1}}}]"` (`[[:nl:{{{2|{{{1}}}}}]|nl]]`)
- w:template:nlis (talk edit (<https://en.wikipedia.org/wiki/template:nlis?action=edit>) history (<https://en.wikipedia.org/wiki/template:nlis?action=history>) links (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:nlis?limit=1000>)) - (`[[:nl:{{{1|PAGENAME}}}]|nl]]`)
- w:template:nlinI (talk edit (<https://en.wikipedia.org/wiki/template:nlinI?action=edit>) history (<https://en.wikipedia.org/wiki/template:nlinI?action=history>) links (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:nlinI?limit=1000>)) - `{{{1}}}` (`[[:nl:{{{2|{{{1}}}}}]|nl]]`)

Interlanguage links in the wider sense

An interlanguage link in the wider sense includes a link to a corresponding page in another language, which, for the software, is a regular link, as opposed to one employing the special interlanguage link *feature* as described above. This can also be an internal link on a multilingual project, e.g. on Meta:

- Meta:Interlanguage links

Possible reasons for using an "interlanguage link" in the page body include:

- control over position
- control over label
- the target contains an anchor

Interwiki links versus external links

Disadvantages of interwiki links:

- The wikitext is less portable across wikis, because wikis do not always have an interwiki prefix for the same sites and even if they do, the prefixes may differ
- There is no feature to find interwiki links, while searching for an external link can be done with Special:Linksearch (if installed). This is due to the fact that, while there is an external links table, there is no such thing for interwiki links. The interwiki table only stores the interwiki prefixes with their targets as function of the parameter, not the instances of the links. Using the general text search, to search for interwiki links, is more work for the server and therefore, it may be slow, not up-to-date or in busy hours, disabled. See also: Finding external links to a page.
- They're misleading because the user has no indication that they're being taken to a different site.

Using templates like template:h:mlw (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:H:mlw&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:H:mlw&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:h:mlw&limit=1000)), the advantages of interwiki links and external links are combined. When a page using this template, which is in this case used for links to the English Wikipedia, is copied to that site, a template with the same name is needed there too. Due to that template, w:template:h:mlw (talk edit (https://en.wikipedia.org/wiki/template:h:mlw?action=edit) history (https://en.wikipedia.org/wiki/template:h:mlw?action=history) links (https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:h:mlw?limit=1000)), which redirects to w:template:h:ml (talk edit (https://en.wikipedia.org/wiki/template:h:ml?action=edit) history (https://en.wikipedia.org/wiki/template:h:ml?action=history) links (https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:h:ml?limit=1000)), the interwiki links are automatically converted to internal links. Hence, they provide existence detection and allow use of "What links here", as well as Linksearch.

Comparison:

- [[imdbtitle:0389790|Bee Movie]] gives *Bee Movie*
- [http://www.imdb.com/title/tt0389790 Bee Movie] gives *Bee Movie* (http://www.imdb.com/title/tt0389790)
 - Linksearch (http://meta.wikimedia.org/w/index.php?title=Special%3ALinksearch&target=http%3A%2F%2Fwww.imdb.com%2Ftitle%2Ftt0389790) works for the latter only

The applicable CSS classes are "extiw" and "external text". The choice may be governed by this, either way, for uniformity or distinction. An interwiki link is easier to type by itself, but if one goes to the webpage anyways, before putting the link, copying the URL is very convenient. When a template is created, e.g. w:Template:Imdb title, the template can be made, such that it uses an interwiki link and a parameter, like "tt0389790" or "0389790", or that it uses an external link and a parameter like one of those or the full url, if that is more convenient.

Interwiki links to the same wiki versus internal links

Disadvantages of interwiki links to the same wiki, compared to internal links:

- no existence detection
- "What links here" works for internal links only
- The interwiki link prefix for the same wiki should be supported otherwise it creates an invalid internal link.

Advantages of interwiki links to the same wiki, compared to internal links:

- better portability across wikis, provided that the same prefix applies and is not equal to a namespace name

When using templates like template:h:ml (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:H:ml&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:H:ml&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:h:ml&limit=1000)), the advantages of internal links, interwiki links and external links are combined, provided that a template with the same name and adapted content is present on the other site.

See also

- mw:Help:Interwiki linking
- Wikimedia sister projects
- m:Templates for linking to sister projects
- Wikimedia interwiki map
 - Default interwiki prefixes (https://phabricator.wikimedia.org/diffusion/MW/browse/master/maintenance/interwiki.list)
- Interwikimedia link at Wikipedia
- Wikipedia Interwiki-Link-Checker (http://tools.wikimedia.de/~flacus/IWLC/index.php) (dead)

- [de:Benutzer:Flacus/Wikipedia Interwiki-Link-Checker/en](#) (with the [Interwiki-Link-Checker](#), you can help to improve the internationalisation of Wikipedia)
- [MeatBall:InterWiki](#)

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Interwiki_linking) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Interwiki_linking) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Interwiki_linking) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Interwiki_linking) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Interwiki_linking)

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Languages:

English · (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ar&uselang=ar) العربية · [dansk](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/da&uselang=da) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/da&uselang=da) · [Deutsch](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/de&uselang=de) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/de&uselang=de) · [français](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/fr&uselang=fr) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/fr&uselang=fr) · [italiano](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/it&uselang=it) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/it&uselang=it) · [日本語](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ja&uselang=ja) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ja&uselang=ja) · [Nederlands](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/nl&uselang=nl) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/nl&uselang=nl) · [русский](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ru&uselang=ru) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/ru&uselang=ru) · [shqip](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/sq&uselang=sq) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/sq&uselang=sq) · [Tiếng Việt](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/vi&uselang=vi) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/vi&uselang=vi) · [中文](https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/zh&uselang=zh) (https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking/zh&uselang=zh)

Retrieved from "https://meta.wikimedia.org/w/index.php?title=Help:Interwiki_linking&oldid=18298772"

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Help:Footnotes

Contents

Notes gathered at a single position

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Notes gathered at a single position

Note: This method will only work if you have installed the [Cite Extension](#).

This method gathers the notes at a single position marked with the `<references/>` tag. If used multiple times, only the first works.

- `<ref>Reference text</ref>`

Produces a reference mark linking to the reference text, provided that the tag `<references/>` mentioned below is present on the page.

- `<ref name="id">Reference text</ref>`

Ditto; also assigns a name to the reference text; the quotes are only needed if *id* contains spaces or special characters.

- `<ref name="id" />`

Produces a reference mark linking to a reference text defined before.

- `<references/>`

Inserts a list of reference texts, each preceded by a list of links to the positions in the page linking to the text; this applies for all texts inside `<ref>` tags in the wikitext of the page.

Multiple insertion of the same reference

[mw:Extension:Cite:](#)

References may be cited more than once using `<ref name="id" />`. On the Edit page, this is placed at the first insertion point of citation:

`<ref name="Perry">Perry's Handbook, Sixth Edition, McGraw-Hill Co., 1984.</ref>`

This is placed at the second insertion point of citation:

`<ref name="Perry"/>`

This is placed at the third insertion point of citation:

`<ref name="Perry"/>` and so forth for further insertion points

Single insertion of a reference

For the single insertion of a reference, the "name" parameter is not needed. On the Edit page, this is placed at the insertion point of citation:

`<ref>Excel For Dummies, First Edition, Hungry Minds, Inc., 1980.</ref>`

To have the reference depend on a parameter, use e.g.:

`{{#tag:refl...{{tc}}...{{1}}...}}` giving ^[1]

What is produced at the points of insertion

The `<ref>` tags in the main text are converted to auto-numbered superscripts, like this:

The only reference to Excel For Dummies.^[2]

The first reference to Perry's Handbook.^[3]

The second reference to Perry's Handbook.^[3]

The third reference to Perry's Handbook.^[3]

Example of note in template`<ref>`The note is in <Help:Footnotes/demo/ref>.

Clicking on a numbered superscript takes you straight to the text of the corresponding footnote or reference.

Producing the reference or footnote list

The `<references/>` tag is expanded to show the text of the footnotes or references against their corresponding numbers, like this:

1. ...`{{t1c|...}}`...`{{1}}`...
2. Excel For Dummies, First Edition, Hungry Minds, Inc., 1980.
3. Perry's Handbook, Sixth Edition, McGraw-Hill Co., 1984.

For single citations, clicking on the caret (^) takes you to the point of citation in the main text.

For multiple citations, the links back to the main text can be distinguished in various ways, depending on [MediaWiki:Cite references link many format](#) and [MediaWiki:Cite references link many format backlink labels](#): the default is to have double-numerical superscripts, e.g. 2.0, 2.1, .. for the second reference, while on Meta and the English Wikipedia we have letters instead of a second number (a instead of 0, b instead of 1, c instead of 2, etc.), and without repeating the reference number. Clicking on a link takes you to the corresponding citation in the main text.

You may also use a slightly different format if desired, like this:

== Example reference section ==

```
<div class="references-small"> <references /> </div>
```

to generate the example section on [help:Footnotes/example 1](#).

Notes on the Cite.php method

- Clicking on the blue superscript [1.0](#) causes the screen display to scroll back up to the point where the first reference to Perry's Handbook was inserted. Clicking on the blue superscript [1.1](#) causes the screen display to scroll back up to the point where the second reference to Perry's Handbook was inserted. Clicking on the blue superscript [1.2](#) causes the screen display to scroll back up to the point where the the third reference to Perry's Handbook was inserted ... and so forth.
- Clicking on any vertical arrow ([↑](#)) that has no associated superscripts causes the screen display to scroll back up to the point where that single-use references was inserted.

Notes at independent positions

The systems below require a note tag with id for each note, but they allow the position of each footnote text to be chosen independently. For example, footnotes in a table or section can be put at the bottom of the table or section.

Ref and note template

System using [Template:Ref](#) and [Template>Note](#):

"[{{ref|abc}}](#)" gives "[\[1\]](#) (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_abc)" [\[2\]](#) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bref%7D%7D%22>)

"[{{note|def}}](#)" gives "[^](#)" [\[3\]](#) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bnote%7D%7D%22>)

"[{{ref|def}}](#)" gives "[\[4\]](#) (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_def)" [\[5\]](#) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bref%7D%7D%22>)

"[{{note|abc}}](#)" gives "[^](#)" [\[6\]](#) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bnote%7D%7D%22>)

A disadvantage of this method is that references to the same note appear with different numbers, and that from the note there is only a link back to the first reference to it, e.g.:

"[{{ref|abc}}](#)" gives "[\[7\]](#) (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_abc)" [\[8\]](#) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bref%7D%7D%22>).

The latter disadvantage is overcome by using multiple ref/note pairs, each with a different name, e.g.:

Not many words in the English language use two consecutive "u"s. There is one word^{[\[9\]](#)} (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_vacuum1) that is both rather empty^{[\[10\]](#)} (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_vacuum2) and also sucks^{[\[11\]](#)} (https://meta.wikimedia.org/wiki/Help:Footnotes#endnote_vacuum3).

1. ^{[^](#)} ^{[^](#)} ^{[^](#)} The word is *vacuum*.

However, this method has advantage over [<ref>](#) in that, it can split the footnotes into each section, while [<references/>](#) does put all footnotes in one place, and can't be split.

Fn and fnb template

System using Template:Fn and Template:Fnb:

"{{fn|abc}}" gives "^{abc}" [12] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bfn%7Cabc%7D%7D%22>)

"{{fnb|def}}" gives "Note def: " [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bfnb%7Cdef%7D%7D%22>)

"{{fn|def}}" gives "^{def}" [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bfn%7Cdef%7D%7D%22>)

"{{fnb|abc}}" gives "Note abc: " [15] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bfnb%7Cabc%7D%7D%22>)

See also

- Preview of a footnote
- mw:Extension:Cite
- mw:Extension:Cite/Cite.php
- w:Wikipedia:Footnotes
- w:Wikipedia:Footnote3
- w:Template:Ref
- Help:Collapsing - another way of separating "main" and "supplementary" content.

Links to other help pages

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Help:Wikitext examples

For basic information see [Help:Editing](#).

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Basic text formatting

You can format the page using Wikitext special characters.

What it looks like	What you type
<p>You can <i>italicize</i> text by putting 2 apostrophes on <i>each</i> side.</p> <p>3 apostrophes will bold the text.</p> <p>5 apostrophes will <i>bold and italicize</i> the text.</p> <p>(Using 4 apostrophes doesn't do anything special -- 3 of them bold the text as usual; the others are 'just' apostrophes around the text.)</p>	<pre>You can 'italicize' text by putting 2 apostrophes on 'each' side. 3 apostrophes will '''bold''' the text. 5 apostrophes will ''''bold and italicize'''' the text. (Using 4 apostrophes doesn't do anything special --
 3 of them '''bold''' the text as usual; the others are ''''just'''' apostrophes around the text.)</pre>
<p>A single newline generally has no effect on the layout. These can be used to separate sentences within a paragraph. Some editors find that this aids editing and improves the <i>diff</i> function (used internally to compare different versions of a page).</p> <p>But an empty line starts a new paragraph.</p> <p>When used in a list, a newline <i>does</i> affect the layout (see below).</p>	<pre>A single newline generally has no effect on the layout. These can be used to separate sentences within a paragraph. Some editors find that this aids editing and improves the 'diff' function (used internally to compare different versions of a page). But an empty line starts a new paragraph. When used in a list, a newline 'does' affect the layout ([[#lists see below]]).</pre>
<p>You can break lines without a new paragraph. Please use this sparingly.</p> <p>Please do not start a link or <i>italics</i> or bold text on one line and end on the next.</p>	<pre>You can break lines
 without a new paragraph.
 Please use this sparingly. Please do not start a link or 'italics' or '''bold''' text on one line and end on the next.</pre>
<p>You should "sign" your comments on talk pages:</p> <ul style="list-style-type: none">Three tildes gives your signature: Example	<pre>You should "sign" your comments on talk pages: * Three tildes gives your</pre>

- Four tildes give your signature plus date/time: Example 07:46, 27 November 2005 (UTC)
- Five tildes gives the date/time alone: 07:46, 27 November 2005 (UTC)

```

signature: ~~~
* Four tildes give your
signature plus date/time: ~~~~
* Five tildes gives the
date/time alone: ~~~~~

```

HTML tags

You can use some HTML tags, too. However, you should avoid HTML in favor of Wiki markup whenever possible.

What it looks like	What you type
Put text in a typewriter font. The same font is generally used for computer code.	Put text in a <code><kbd></code> typewriter font</kbd>. The same font is generally used for <code><code></code> computer code</code>.
Strike out or <u>underline</u> text, or write it IN SMALL CAPS.	<code><strike></code> Strike out</strike> or <code><u></code> underline</u> text, or write it <code></code> in small caps.
Superscripts and subscripts: X ² , H ₂ O	Superscripts and subscripts: X², H₂O
Centered text <ul style="list-style-type: none"> Please note the American spelling of "center". 	<code><center></code> Centered text</center> * Please note the American spelling of "center".
<ul style="list-style-type: none"> This is how to highlight part of a sentence. 	* This is how to <code>{{Font color yellow highlight part of a sentence}}</code> .
<div style="border-left: 1px solid black; padding-left: 10px;"> <p>The blockquote command <i>formats</i> block quotations, typically by surrounding them with whitespace and a slightly different font.</p> </div>	<code><blockquote></code> The <code>'''blockquote'''</code> command <code>'formats'</code> block quotations, typically by surrounding them with whitespace and a slightly different font. <code></blockquote></code>
Invisible comments to editors (<code><!-- --></code>) appear only while editing the page. <ul style="list-style-type: none"> If you wish to make comments to the public, you should usually use the <u>talk page</u>. 	Invisible comments to editors (<code><!-- --></code>) appear only while editing the page. <code><!-- Note to editors: blah blah blah. --></code>

Organizing your writing

See also: w:Picture tutorial

What it looks like	What you type
<p><i>Headings</i> organize your writing into sections. The <i>Wiki</i> software can automatically generate a <u>table of contents</u> from them.</p> <p>Subsection</p> <p>Using more "equals" (=) signs creates a subsection.</p> <p>A smaller subsection</p> <p>Don't skip levels, like from two to four equals signs.</p>	<pre> == Section headings == '''Headings''' organize your writing into sections. The '''Wiki''' software can automatically generate a [[help:Section table of contents]] from them. === Subsection === Using more "equals" (=) signs creates a subsection. ==== A smaller subsection ==== Don't skip levels, like from two to four equals signs. Start with 2 equals signs not 1 because 1 </pre>

Start with 2 equals signs not 1 because 1 creates H1 tags which should be reserved for page title.

creates H1 tags which should be reserved for page title.

- *Unordered lists* are easy to do:
 - Start every line with a star.
 - More stars indicate a deeper level.

Previous item continues.

- A newline in a list

marks the end of the list.

- Of course you can start again.

```
* 'Unordered lists' are easy to do:
** Start every line with a star.
*** More stars indicate a deeper level.
*: Previous item continues.
** A newline
* in a list
marks the end of the list.
*Of course you can start again.
```

1. *Numbered lists* are:

1. Very organized
2. Easy to follow

A newline marks the end of the list.

1. New numbering starts with 1.

```
# 'Numbered lists' are:
## Very organized
## Easy to follow
A newline marks the end of the list.
# New numbering starts with 1.
```

Here's a *definition list*.

Word

Definition of the word

A longer phrase needing definition

Phrase defined

A word

Which has a definition

Also a second definition

And even a third

Begin with a semicolon. One item per line; a newline can appear before the colon, but using a space before the colon improves parsing.

```
Here's a 'definition list':
; Word : Definition of the word
; A longer phrase needing definition
: Phrase defined
; A word : Which has a definition
: Also a second definition
: And even a third

Begin with a semicolon. One item per line;
a newline can appear before the colon, but
using a space before the colon improves
parsing.
```

- You can even do mixed lists

1. and nest them
2. inside each other

- or break lines in lists.

definition lists

can be

nested

too

```
* You can even do mixed lists
** and nest them
** inside each other
*** or break lines<br>in lists.
**; definition lists
**: can be
**;; nested : too
```

A colon (:) indents a line or paragraph.

A newline starts a new paragraph.

Should only be used on talk pages.

For articles, you probably want the blockquote tag.

We use 1 colon to indent once.

We use 2 colons to indent twice.

3 colons to indent 3 times, and so on.

```
: A colon (:) indents a line or paragraph.
A newline starts a new paragraph.
Should only be used on talk pages.
For articles, you probably want the blockquote
tag.
: We use 1 colon to indent once.
:: We use 2 colons to indent twice.
::: 3 colons to indent 3 times, and so on.
```

You can make *horizontal dividing lines* (----) to separate text.

```
You can make 'horizontal dividing lines'
(----) to separate text.
```

But you should usually use sections instead,

But you should usually use sections instead, so that they go in the table of contents.

so that they go in the table of contents.

You can add footnotes to sentences using the *ref* tag -- this is especially good for citing a source.

There are over six billion people in the world.^[1]

References:

1. CIA World Factbook, 2006.

For details, see [Wikipedia:Footnotes](#) and [Help:Footnotes](#).

```
You can add footnotes to sentences using
the ''ref'' tag -- this is especially good
for citing a source.
```

```
:There are over six billion people in the
world.<ref>CIA World Factbook, 2006.</ref>
```

```
References: <references/>
```

```
For details, see [[Wikipedia:Footnotes]]
and [[Help:Footnotes]].
```

Links

You will often want to make clickable *links* to other pages.

What it looks like	What you type
Here's a link to a page named Official position . You can even say official positions and the link will show up correctly.	<pre>Here's a link to a page named [[Official positions Official position]]. You can even say [[official positions]] and the link will show up correctly.</pre>
You can put formatting around a link. Example: Wikipedia .	<pre>You can put formatting around a link. Example: ''[[Wikipedia]]''.</pre>
The <i>first letter</i> of articles is automatically capitalized, so wikipedia goes to the same place as Wikipedia . Capitalization matters after the first letter.	<pre>The ''first letter'' of articles is automatically capitalized, so [[wikipedia]] goes to the same place as [[Wikipedia]]. Capitalization matters after the first letter.</pre>
Intentionally permanent red link is a page that doesn't exist yet. You could create it by clicking on the link.	<pre>[[Intentionally permanent red link]] is a page that doesn't exist yet. You could create it by clicking on the link.</pre>
You can link to a page section by its title: <ul style="list-style-type: none">▪ Doxygen#Doxygen Examples. If multiple sections have the same title, add a number. #Example section 3 goes to the third section named "Example section".	<pre>You can link to a page section by its title: * [[Doxygen#Doxygen Examples]]. If multiple sections have the same title, add a number. [[#Example section 3]] goes to the third section named "Example section".</pre>
You can make a link point to a different place with a piped link . Put the link target first, then the pipe character " ", then the link text. <ul style="list-style-type: none">▪ About Links▪ Cities in Morocco Or you can use the "pipe trick" so that a title that contains disambiguation text will appear with more concise link text. <ul style="list-style-type: none">▪ Spinning▪ Boston	<pre>You can make a link point to a different place with a [[Help:Piped link piped link]]. Put the link target first, then the pipe character " ", then the link text. * [[Help:Link About Links]] * [[List of cities by country#Morocco Cities in Morocco]] Or you can use the "pipe trick" so that a title that contains disambiguation text will appear with more concise link text. * [[Spinning (textiles)]] * [[Boston, Massachusetts]]</pre>
You can make an external link just by typing a URL: http://www.nupedia.com You can give it a title: Nupedia (http://www.nupedia.com) Or leave the title blank: [1] (http://www.nupedia.com)	<pre>You can make an external link just by typing a URL: http://www.nupedia.com You can give it a title: [http://www.nupedia.com Nupedia] Or leave the title blank: [http://www.nupedia.com] External link can be used to link to a wiki page that cannot be linked to with <nowiki>[[page]]</nowiki>:</pre>

<p>External link can be used to link to a wiki page that cannot be linked to with <code>[[page]]</code>: http://meta.wikimedia.org/w/index.php?title=Fotonotes&oldid=482030#Installation</p>	<pre>http://meta.wikimedia.org/w/index.php?title=Fotonotes&oldid=482030#Installation</pre>
<p>Linking to an e-mail address works the same way: <code>mailto:someone@example.com</code> or <code>someone (mailto:someone@example.com)</code></p>	<pre>Linking to an e-mail address works the same way: mailto:someone@example.com or [mailto:someone@example.com someone]</pre>
<p>You can <u>redirect</u> the user to another page.</p>	<pre>#REDIRECT [[Official positions Official position]]</pre>
<p>Category links do not show up in line but instead at page bottom <i>and cause the page to be listed in the category</i>.</p> <p>Add an extra colon to <i>link</i> to a category in line without causing the page to be listed in the category: <code>Category:English documentation</code></p>	<pre>[[Help:Category Category links]] do not show up in line but instead at page bottom 'and cause the page to be listed in the category.' [[Category:English documentation]] Add an extra colon to 'link' to a category in line without causing the page to be listed in the category: [:Category:English documentation]]</pre>
<p>The Wiki reformats linked dates to match the reader's date preferences. These three dates will show up the same if you choose a format in your <u>Preferences</u>:</p> <ul style="list-style-type: none"> ▪ <u>1969-07-20</u> ▪ <u>July 20, 1969</u> ▪ <u>20 July 1969</u> 	<pre>The Wiki reformats linked dates to match the reader's date preferences. These three dates will show up the same if you choose a format in your [[Special:Preferences]]: * [[1969-07-20]] * [[July 20]], [[1969]] * [[20 July]] [[1969]]</pre>

Just show what I typed

A few different kinds of formatting will tell the Wiki to display things as you typed them.

What it looks like	What you type
<p>The <code>nowiki</code> tag ignores <code>[[Wiki]]</code> "markup". It reformats text by removing newlines and multiple spaces. It still interprets special characters: <code>→</code></p>	<pre><nowiki> The nowiki tag ignores [[Wiki]] 'markup'. It reformats text by removing newlines and multiple spaces. It still interprets special characters: &rarr; </nowiki></pre>
<pre>The pre tag ignores [[Wiki]] 'markup'. It also doesn't reformat text. It still interprets special characters: →</pre>	<pre><pre> The pre tag ignores [[Wiki]] 'markup'. It also doesn't reformat text. It still interprets special characters: &rarr; </pre></pre>
<p><u>Leading spaces</u> are another way to preserve formatting.</p> <pre>Putting a space at the beginning of each line stops the text from being reformatted. It still interprets Wiki markup and special characters: →</pre>	<pre>Leading spaces are another way to preserve formatting. Putting a space at the beginning of each line stops the text from being reformatted. It still interprets [[Wiki]] 'markup' and special characters: &rarr;</pre>

Source code

If the syntax highlighting extension is installed, you can display programming language [source code](#) in a manner very similar to the HTML `<pre>` tag, except with the type of [syntax highlighting](#) commonly found in advanced text editing software.

List of supported languages: <http://pygments.org/languages/>

Here's an example of how to display some [C#](#) source code:

```
<source lang="csharp">
// Hello World in Microsoft C# ("C-Sharp").

using System;

class HelloWorld
{
    public static int Main(String[] args)
    {
        Console.WriteLine("Hello, World!");
        return 0;
    }
}
</source>
```

Results in:

```
// Hello World in Microsoft C# ("C-Sharp").

using System;

class HelloWorld
{
    public static int Main(String[] args)
    {
        Console.WriteLine("Hello, World!");
        return 0;
    }
}
```



Images, tables, video, and sounds

This is a very quick introduction. For more information, see:

- *[Help:Images and other uploaded files](#), for how to upload files;*
- *[w:en:Wikipedia:Extended image syntax](#), for how to arrange images on the page;*
- *[Help:Table](#), for how to create a table.*

After uploading, just enter the filename, highlight it and press the "embedded image"-button of the edit_toolbar.

This will produce the syntax for uploading a file **[[Image:filename.png]]**

What it looks like	What you type
<p>A picture, including alternate text:</p>  <p>You can put the image in a frame with a caption:</p> 	<p>A picture, including alternate text:</p> <pre>[[Image:Wiki.png This is Wiki's logo]]</pre> <p>You can put the image in a frame with a caption:</p> <pre>[[Image:Wiki.png frame This is Wiki's logo]]</pre>
<p>A link to Wikipedia's page for the image: Image:Wiki.png</p>	<p>A link to Wikipedia's page for the image:</p> <pre>[[[:Image:Wiki.png]]]</pre>

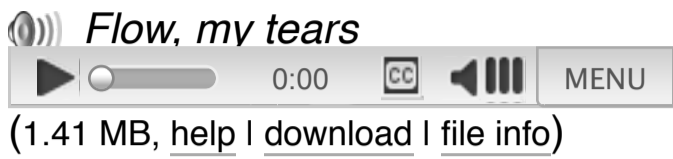
Or a link directly to the image itself: [Media:Wiki.png](#)

Or a link directly to the image itself:
[[Media:Wiki.png]]

Use **media:** links to link directly to sounds or videos: [A sound file](#)

Use '''media:''' links to link directly to sounds or videos:
[[media:Classical guitar scale.ogg|A sound file]]

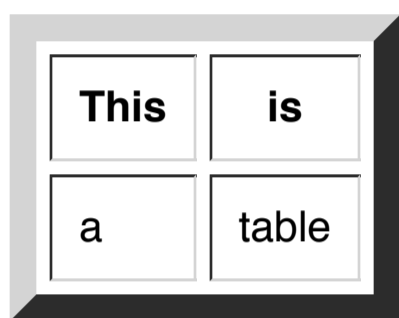
Provide a spoken rendition of some text in a template:



Provide a spoken rendition of some text in a template:
{{listen
|title = Flow, my tears
|filename = Flow, my tears.ogg
|filesize = 1.41 MB
}}

Text In a Box

'''Text In a Box'''



```
{| border="10" cellspacing="5" cellpadding="10" align="center"
|-
! This
! is
|-
a
table
|}
```

Galleries

Main article: [w:Gallery tag](#)

Images can also be grouped into galleries using the `<gallery>` tag, such as the following:



Captioned

[Links](#) can be put in captions.

Mathematical formulae

You can format mathematical formulae with [TeX](#) markup.

What it looks like	What you type
$\sum_{n=0}^{\infty} \frac{x^n}{n!}$	<pre><math>\sum_{n=0}^{\infty} \frac{x^n}{n!}</math></pre>

Templates

Templates are segments of Wiki markup that are meant to be copied automatically ("transcluded") into a page. You add them by putting the template's name in `{{double braces}}`. It is also possible to transclude other pages by using `{{:colon and double braces}}`.

Some templates take *parameters*, as well, which you separate with the pipe character.

What it looks like	What you type
--------------------	---------------

This text comes from the page named <u>Template:Transclusion demo</u> . It has been <u>transcluded</u> into this page.	<pre>{{Transclusion demo}}</pre>
<i>This transclusion demo is a little bit of text from the page <u>Help:Transclusion Demo</u> to be included into any file.</i>	<pre>{{Help:Transclusion Demo}}</pre>
<p>This template takes two parameters, and creates underlined text with a hover box for many modern browsers supporting CSS:</p> <p><u>Hover your mouse over this text</u></p> <p>Go to this page to see the H:title template itself: {{H:title}}</p>	<pre>This template takes two parameters, and creates underlined text with a hover box for many modern browsers supporting CSS: {{H:title This is the hover text Hover your mouse over this text}} Go to this page to see the H:title template itself: {{tl H:title}}</pre>

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Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Wikitext_examples) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Wikitext_examples) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Wikitext_examples) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Wikitext_examples) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Wikitext_examples)

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Help:Cascading style sheets

Cascading Style Sheets is a style sheet language used to describe the appearance of the page. It allows for flexible formatting of a page and should be used instead of tables whenever possible, because they can be manipulated by the reader or overridden by an author if your css is embedded in another page via a template.

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Style depending on a parameter or variable

Variable class or id

Variable style parameter value

See also

Links to other help pages

Levels of CSS settings

Style may be specified inline for a each HTML elements or pieces of content, see e.g. color; scope of parameters. Alternatively, style is specified for CSS selectors located in special files called 'stylesheets' and expressed in terms of elements, classes, id's and other attributes. This is done on various levels:

Author stylesheets, in this order:

- MediaWiki in general (including a skin specific style sheet)
- site-wide for all skins: MediaWiki:Common.css
- site-wide per skin: MediaWiki:Monobook.css, etc.
- user-specific for all skins: *User:username/common.css*
- user-specific per skin: *User:username/skinname.css* (*note that in the CSS terminology user-specific style sheets are **not** user stylesheets*)

User stylesheet:

- web-wide, user-specific: local file, referred to in the browser settings, or directly set in the browser

A HTML element may be just taken from the wikitext (see HTML in wikitext), e.g. , or the result of parsing wikitext – for instance, the code is changed into . A HTML element can also be taken from the code for the used skin.

A 'class' may be produced by the software, e.g. *ns-namespace number* for the HTML-element "body", and *extiw* for an interwiki link in the page body, or taken from the wikitext.

Similarly an 'id' may be produced by the software, e.g. *bodyContent*, or taken from the wikitext.

In the case of conflicting style settings for a piece of content, the resulting setting depends primarily on the indication "!important". Secondly, if both are important, the user wins, if neither is, the author wins. Tertiarily it depends on specificity. Only lastly it depends on order between and within stylesheets: the last wins. Thus a *User:username/monobook.css* does not win from *MediaWiki:Monobook.css* (both author, not user) if the specificity of the latter is greater. See also cascading order (<http://www.w3.org/TR/REC-CSS2/cascade.html>).

Supported Elements

MediaWiki supports most CSS. There were some bugs in CSS support in earlier versions.

<translate>

For further information, see <var1>the CSS specification (http://www.w3.org/TR/CSS21/)</>.</translate>.

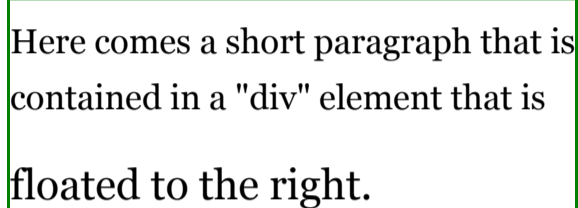
CSS in wikitext

You can use CSS styling in HTML elements in your code (see Help:HTML in wikitext for a list of elements supported by MediaWiki) like you would in normal HTML markup.

For example, a "div" element with a green border and its contents floated to the right would be created with

```
<div style="float:right; border:thin solid green;">
Here comes a short paragraph that is<br />
contained in a "div" element that is<br />
floated to the right.</div>
```

which would produce the box as shown.



Some wikitext elements allow you to insert CSS styling directly into them. An example is the table syntax:

```
{| style="your style here"
|-
|your table stuff
|-
|}
```

<translate>

For further information, see <var1>Help:Tables</>.</translate>

MediaWiki existing styles

See also Major style blocks below

You may wish to use styles that are already predefined by MediaWiki, or the site that you are visiting. This can be done by assigning predefined classes to html tags in the wikitext. You can also create a style that is unique to your page.

Vector is the default style on all Wikimedia Projects.

Tips and tricks

Non-display

One extreme "style" for a text is "display:none;", i.e., not displaying it, e.g.

```
p<span style="display:none;">q</span>r gives pr
```

To allow a text to optionally have this style, specify a class or id for it; a user who wants to hide it can then correspondingly specify in his/her personal CSS:

```
.classname {display: none;} Or #id {display: none;}
```

Non-displayed links do not work, as opposed to links in a very small font, compare:

```
p<span style="display:none;">[[q]]</span>r gives pr
p<small><small><small><small><small>[[q]]</small></small></small></small></small>r gives pqr
```


It cannot be used to remove text in expressions for template names, parameter names, parameter values, page names in links, etc.

While "display: none;" produces nothing, "visibility: hidden;" produces blank spaces replacing the content; its opposite is "visibility: visible;".

Example:

```
p<span style="visibility: hidden;">q</span>r gives p r
```

Try inspecting the page with the *Developer tools* probably provided with your browser to find the hidden element.

If you would like to view the hidden text you could use an add-on for your browser. For example the *Web Developer* add-on is available for Firefox (<https://addons.mozilla.org/en-US/firefox/addon/60>) and Chrome (<https://chrome.google.com/webstore/detail/web-developer/bfbameneiokkbldmiekhjnmfkcnldhnm?hl=en-GB>). You could add it to your browser and then choose Misc. -> Display Hidden Elements in that toolbar, to make all hidden elements appear.

Non-print

One can exclude content from being printed (if the browser supports CSS) by declaring the content to be of the "noprint" class:

```
<div class="someclass noprint">This will not appear in the print version.</div>
```

Major style blocks

This information applies to the monobook skins and may not be valid for the vector skin

- *column-content* – overall space within the margins of which the content exists.
- *content* – the white background, thin bordered box which contains the main page content.
- *firstHeading* – the class of the heading tag at the top of every page
- *bodyContent* – the main page content within the content box
- *contentSub* – the name of the wiki immediately underneath the main heading, but above the body text

The portlet class is the style used by all the div blocks around the main content. Identified blocks using that class:

- *p-cactions* – id for the list of tabs above the main content
- *p-personal* – id for the list of links that include the login or logout page at the top of the page.
- *p-logo* – id for the block that contains the logo (in the top left)
- *p-navigation* – id for the block that contains the navigation links on the left of the page
- *p-search* – the block that contains the search buttons
- *p-tb* – the block that contains the toolbox links
- *p-lang* – the block that contains interlanguage links

The footer at the bottom of the page includes blocks with the following ids

- *footer* – overall footer container block
- *f-poweredbyico* – the powered by mediawiki image that normally resides to the right of the page
- *f-list* – id for the list that contains all the bits of text at the bottom of the page

Style depending on a parameter or variable

Variable class or id

A class or id can depend on the result produced by a template or on a template parameter, e.g. class="abc{{{1|def}}}". For one or more of the possible class names the style of that class can be defined. If the class is undefined it is ignored, so the standard style is used.

In the simplest case we have e.g. class="abc{{{1}}}" and define class abcdef. If the parameter value is "def" it applies.

If a page for general use only makes sense when styles are defined for certain classes, then these have to be specified in the page `MediaWiki:Common.css`, which applies for all users and all skins, as far as not overridden.

Variable style parameter value

```
<span style="display:{{{3|none}}}">Wed</span>
```

displays "Wed" if parameter 3 is defined, but its value is not "none", and displays nothing if parameter 3 is undefined or "none". If the value of parameter 3 is a display style other than "none", that style is applied.

See also

- [Help:User style](#). A person can modify the style, for accessibility, or additional feature testing.
- [mw:Manual:Gallery of user styles](#)
- [mw:Skin projects](#)
- [Customization:Explaining skins](#)
- [Configuration settings: \\$wgAllowUserCss](#)
- [w:Cascading Style Sheets](#)
- [w:Wikipedia:Customisation](#)
- [w:Wikipedia:Catalogue of CSS classes](#)

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shqip (https://meta.wikimedia.org/w/index.php?title=Help:Cascading_style_sheets/sq&uselang=sq)

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Help:Reference card



This page has outdated information. Please help update it, or bring attention to it on the [community discussion page](#).

The **MediaWiki reference card** is a one page summary of important MediaWiki editing commands, intended to be printed out and used next to the computer. It was originally created by [MichaelJanich](#), starting from a similar reference card for [TeX](#). This file has been updated to properly display fonts on screen.

To view and print the reference card, you need a recent [PDF viewer](#). The card can be downloaded in PDF format from here: [Wiki-refcard download page](#). A free Word document to MediaWiki format converter can be downloaded from [Word2MediaWiki](#) (<http://www.infpro.com/Word2MediaWiki.aspx>). The URL in the reference card to this converter is not correct as of 6 Nov 2007.

The [TeX](#) source code can be viewed, edited and downloaded here: [help:Reference card/TeX source](#).

Please feel free to improve the reference card by editing the TeX source code; if you do, you may want to update the version number and upload a new PDF version, since not all users have access to TeX.

See also the poster sized [cheatsheet](#).

Links to other help pages

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WikiMedia Reference Card

Starting a new page

from an existing page: Add a link to a new (not yet existing) page and save the document. All pages that do not yet exist will have a red hyperlink. To create that page, click on the red hyperlink. See below for link syntax.
from MS Word document: Go to <http://www.infpro.com/downloads/downloads/wordmedia.htm> and follow the instructions there. Note that images will not be converted.

Basic Formatting

"emphasized text" 2 single quotes
""very emphasized text"" 3 single quotes
""""very very emphasized text"""" 4 single quotes
empty line Paragraph
--- Insert username and date
Start line with a space to avoid reformatting
<nowiki>text w/o wikification</nowiki> in box
<pre>block of text w/o reformatting</pre> in box

Headings

====Section====
====Subsection====
=====Subsubsection=====

Lists

* itemized list List with dots
** second level
*** third level
numbered list Numbered list
second level
third level
: DNA: Deoxyribonucleic acid Definition list
: colon indents line
: more indented line

Links

we research [\[rice\]](#) here Internal link
we research [\[Golden Rice\]](#) here
Note: Links to pages that don't exist, will be in red. To create that page, simply click on that link to create it. An edit window will appear.
[\[Rice|Oryza sativa\]](#) is... Alternative text
<http://www.yahoo.com> External link
see also [\[1\]](#) / see also [1] /
other wiki [\[:Wikipedia:PCR|PCR\]](#) Interviki link
[#REDIRECT](#) [\[:Official position\]](#) abbrevs, aliases
→ full details at Help:Editing

Multimedia

Here is a pic [\[\[Image:wiki.png\]\]](#)
[\[\[Image:wiki.png|frame|Caption\]\]](#) with frame
[\[\[Image:wiki.png|thumb|Caption\]\]](#) with thumb
[\[\[Image:wiki.png|thumb|300px|Caption\]\]](#) 300px wide
[\[\[Image:wiki.png|thumb|left|300px|Caption\]\]](#) text floating
All other media: [\[\[Media:video.asf|Video\]\]](#)
PDF: [\[\[Media:filename.pdf|PDF\]\]](#)
→ full details at [Wikimedia:Extended_image_syntax](#)
→ [Help:Images_and_media](#)

Tables

topleft	topmiddle	topright
midleft	midmiddle	midright
bottomleft	bottommiddle	bottomright

Student List
! Name !! Age !! Sex
! Peter align=right 8 m
! Paul align=right 12 m
! Mary align=right 9 f

→ full details at [Help:Table](#)

Categories

[\[\[Category:CatName\]\]](#) Add cat to article
Note: new categories are created automatically
[\[:Category:CatName\]](#) Link to cat
[\[:Category:People|Einstein, Albert\]](#) Sort under Einstein
Categories can be member of other categories. This way you create a hierarchy of categories.
Special:Categories Lists all categories
Note: Images can be part of a category
→ full details at [Help:Category](#)

Math

$\sum_{n=0}^{\infty} x^n$ sum.
 $\sum_{n=0}^{\infty} \frac{x^n}{n!}$ sum.
→ full details at [Help:Math](#)

Special Characters

À À É È Ò Ò ... accent grave
Â Á Ê É Ô Ó ... accent acute
Ã Ã Ë &Etilde; Õ Õ ... accent circumflex
Ä Ä Æ Ä Æ Ä ... tilde
Å Å È Ë Æ Ä ... umlaut
ß &Sszlig; œ &Oeuml; ø Ø specials
ı Îumflex; ĳ Į ſ &Scedilla; --- &Mdash;
α Α β Β γ Γ ... greek
→ full details at [Help:Special_characters](#)

Templates

To insert a block of text from a template type [{{Template name}}](#). The template can be found under [Template:Template.name](#).
→ full details at [Help:Template](#)

Policies

Naming articles The name of the article is at the same time the article headline as well as the link for the article. The first character is always automatically capitalized. Lowercase second and subsequent words, except if it's a name. Prefer singular nouns. Use spelled-out phrase and use redirect for acronyms and abbreviations.
The following characters are not allowed in page titles: # + < > [] { } / . The first character is automatically capitalized. The maximum length is 255 characters.
→ full details at [Wikipedia:Naming conventions](#)
Editing Be bold in updating articles. If you see a mistake, content, spelling or grammar, please edit the page and correct it immediately. But don't be reckless. Don't make the contributor angry.

Perfection is not required. This is a community and incomplete articles or random collection of facts. Save them for others to add their knowledge and edit your article. Avoid duplication, irrelevancy, nonsense and inaccuracy.
[Wikipedia:Wikiquote](#)

Help Pages

Help pages mentioned above, are available at <http://en.wikipedia.org/wiki/Help> or under the mentioned help section, e.g. <http://en.wikipedia.org/wiki/Help:Table>.

October 2007 v1.0.

Reference card v1.0. (Please use the PDF version for printing.)

[kisource.org/wiki/Special:Allpages?namespace=12](https://www.kisource.org/wiki/Special:Allpages?namespace=12)) · [MediaWiki: Manual \(https://www.mediawiki.org/wiki/Special:Allpages?namespace=100\)](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · [Google](#)

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Help:HTML in wikitext

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Permitted HTML

The following [HTML elements](#) are permitted in MediaWiki, as of version 1.27:

Element	Since	Notes
<abbr>	1.16	
	1.1	
<bdi>	1.20	
<bdo>	1.22	
<big>	1.1	Deprecated
<blockquote>	1.1	

	1.1	
<caption>	1.1	
<center>	1.1	Deprecated
<cite>	1.1	
<code>	1.1	
<data>	1.21	
<dd>	1.1	
	1.3	
<dfn>	1.17	
<div>	1.1	
<dl>	1.1	
<dt>	1.1	
	1.1	
	1.1	Deprecated

<u><h1></u>	1.1	
<u><h2></u>	1.1	
<u><h3></u>	1.1	
<u><h4></u>	1.1	
<u><h5></u>	1.1	
<u><h6></u>	1.1	
<u><hr></u>	1.1	
<u><i></u>	1.1	
<u><ins></u>	1.3	
<u><kbd></u>	1.17	
<u></u>	1.1	
<u><link></u>	1.27	Microdata attributes only ^[n 1]
<u><mark></u>	1.21	
<u><meta></u>	1.27	Microdata attributes only ^[n 1]
<u></u>	1.1	
<u><p></u>	1.1	
<u><pre></u>	1.1	
<u><q></u>	1.22	
<u><rb></u>	1.1	
<u><rp></u>	1.1	
<u><rt></u>	1.1	
<u><rtc></u>	1.24	
<u><ruby></u>	1.1	
<u><s></u>	1.1	
<u><samp></u>	1.17	
<u><small></u>	1.1	
<u></u>	1.4	
<u><strike></u>	1.1	Deprecated
<u></u>	1.1	
<u><sub></u>	1.1	
<u><sup></u>	1.1	
<u><table></u>	1.1	
<u><td></u>	1.1	
<u><th></u>	1.1	
<u><time></u>	1.21	
<u><tr></u>	1.1	
<u><tt></u>	1.1	Deprecated
<u><u></u>	1.1	
<u></u>	1.1	
<u><var></u>	1.1	
<u><wbr></u>	1.22	

For many HTML elements, more convenient wikitext code is available, see [Help:Editing](#). On the other hand, HTML tags allow an `id` that can be referenced in one's [user style](#) css, and allows the tag to be used as link target.

For example, the anchor element `<a>` is not allowed, so the wikitext

```
<a href="http://meta.wikimedia.org/">Main Page</a>
```

is treated like the wikitext

```
&lt;a href="http://meta.wikimedia.org/"&gt;Main Page&lt;/a&gt;
```

and is therefore displayed as

```
<a href="http://meta.wikimedia.org/">Main Page</a>
```

which is unlikely to be what the editor intended. Instead of using the anchor element (`<a>`) the wiki markup for external reference is recommended (enclosed in square brackets with the URL separated from the contents by a single space):

```
[http://meta.wikimedia.org/ Main Page]
```

displays as:

[Main Page \(http://meta.wikimedia.org/\)](http://meta.wikimedia.org/)

The following excerpts from [Sanitizer.php \(1.29\)](#) (https://phabricator.wikimedia.org/diffusion/MW/browse/REL1_29/includes/Sanitizer.php) additionally show which attributes are allowed.

```
$htmlpairsStatic = array( # Tags that must be closed
    'b', 'bdi', 'del', 'i', 'ins', 'u', 'font', 'big', 'small', 'sub', 'sup', 'h1',
    'h2', 'h3', 'h4', 'h5', 'h6', 'cite', 'code', 'em', 's',
    'strike', 'strong', 'tt', 'var', 'div', 'center',
    'blockquote', 'ol', 'ul', 'dl', 'table', 'caption', 'pre',
    'ruby', 'rb', 'rp', 'rt', 'rtc', 'p', 'span', 'abbr', 'dfn',
    'kbd', 'samp', 'data', 'time', 'mark'
);
$htmlsingle = array(
    'br', 'wbr', 'hr', 'li', 'dt', 'dd', 'meta', 'link'
);
$htmlsingleonly = array( # Elements that cannot have close tags
    'br', 'wbr', 'hr', 'meta', 'link'
);
$htmlnest = array( # Tags that can be nested--??
    'table', 'tr', 'td', 'th', 'div', 'blockquote', 'ol', 'ul',
    'li', 'dl', 'dt', 'dd', 'font', 'big', 'small', 'sub', 'sup', 'span',
    'var', 'kbd', 'samp', 'em', 'strong', 'q', 'ruby', 'bdo'
);
$stabletags = array( # Can only appear inside table, we will close them
    'td', 'th', 'tr',
);
$htmllist = array( # Tags used by list
    'ul', 'ol',
);
$listtags = array( # Tags that can appear in a list
    'li',
);
```

1. `<link>` and `<meta>` are only permitted with Microdata attributes:[\[1\]](#) ([https://phabricator.wikimedia.org/source/mediawiki/browse/REL1_29/includes/Sanitizer.php\\$715](https://phabricator.wikimedia.org/source/mediawiki/browse/REL1_29/includes/Sanitizer.php$715)) `<link itemprop="..." href="..." />` and `<meta itemprop="..." content="..." />`.

Tags

`` is a generic inline text container.

`` is a similar tag which is [deprecated](#) (should not be used) in favor of ``.

For example

```
a <font color="red">red</font> word.
```

produces the same result as

```
a <span style="color:red">red</span> word.
```

See also [Template:Font size demo](#) and [Help:Text color](#).

It's pointless to combine the legacy tag `` with inline CSS; legacy browsers would ignore the CSS, while modern browsers support `` (see above).

Note that in most cases, one can use a more descriptive tag, for instance, `` to indicate an important piece of text, or `` (subject to the same things as strong) to indicate an emphasized piece of text.

This not only draws the user's attention to the text, but can also alert those who are using nonvisual browsers or have sight impairments, etc. to the fact that that is *emphasized text*.

Using `` as a link target

The standard way of providing a named anchor as an invisible target (i.e. ``) doesn't work (since all `<a>` tags are converted), and an alternative suggested by the W3C (<http://www.w3.org/TR/html401/struct/links.html>), `<hN id="Foo"></hN>`, produces an "[Edit]" link.

However, `` does produce a target that can be the destination of a link. Note that it doesn't work everywhere; for instance, in a table, it has to be inside a cell before some browsers will jump to it properly.

`<div>`

`<div>` is a generic block container. Rules:

- `<div>` should be followed by a newline
- `</div>` should be preceded by a newline
- `</div>` followed by text on the same line, two newlines and text before `<div>` on the same line should be avoided (because the two newlines only produce a space)

Example:

```
"----  
o p<div>q</div>r s<div>t  
u  
v  
x</div>y s<div>t  
u  
v  
x</div>y z  
----  
" → "
```

o
p
q
r s
t

u v

X

y s

t

u v

X

y

z

" [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22----%0do%0A%0Ap%3Cdiv%3Eq%3C%2Fdiv%3Er%0A%0As%3Cdiv%3Et%odu%odv%odx%3C%2Fdiv%3Ey%0A%0As%3Cdiv%3Et%odu%odv%odx%3C%2Fdiv%3Ey%0A%0Az%0d----%0d%22&removecomments=true>)

HTML comment

Using Template:T:

- `{{t}}` gives start-pqr-end [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bt%7D%7D%22>)
- `"{{subst:xpd|t}}"` gives the wikitext "`<!--t-->start-pqr-end`", producing HTML code without the comment.

The "Remove comments" option of ExpandTemplates selects whether comments are removed, not just in the final result but throughout the expansion process. This affects the result of parser functions: a comment in the expression of `#expr` or in the condition of `#ifexpr` gives an error message unless "Remove comments" is on, and comments affect `#if` and `ifeq`.

Example:

Wikitext:

```

{{#expr:<!--p-->3}}
{{#ifeq:<!--p-->3|3|1|0}}
{{#if:<!--p-->|1|0}}

```

Result of normal expansion, and of ExpandTemplates with "Remove comments" on:

3

1

0

Result of full substitution, and of ExpandTemplates with "Remove comments" off:

Expression error: Unrecognised punctuation character "?"

0

1

Therefore it is typically better to avoid comments in these places, and to put the comment before or after the parser function.

In the case of nested parser functions, to avoid having to put the comments outside the whole, an alternative is `{{void|comment}}`. In the case of substitution of the parser function, "void" has to be substituted too, e.g. in a template allowing multi-level substitution we can put `{{{{subst1|}}}#expr:3*{{1}} {{{subst1|}}void| multiply by 3 }}`.

Another alternative is making the comment the name of a parameter (in the likely case that it is unused), with the empty string as default, e.g. `{{ multiply by 3 |}}` or, to recognize the intention, use pseudo comment tags: `{{<!-- multiply by 3 ->|}}`, or real ones, if the empty string is not used as parameter: `{{<!-- multiply by 3 -->|}}`.

See also [Template:T comment](#).

Attributes

Most tags can have a `style` attribute. For example

```
<div style="font-size:80%">
This is <span style="color:red">red</span> text.
</div>
```

produces:

This is red text.

Most tags can have classes and IDs. They can be used in conjunction with stylesheets to give a piece of text a descriptive class (or unique identifier) and to refer to that in a stylesheet. For example

```
<div class="infobox">Example infobox</div>
```

Produces the box which floats on the right because `infobox` class is already defined in local [Mediawiki:Common.css](#).

Example infobox

Classes and IDs can also be used by Javascript code.

Another attribute example is `title`, for example used in `{{H:title}}` template: note the hover box over "20000 ft"

"a height of 20000 ft above sea level"

Tags with special effect

Pre

`<pre>` tags work as the combination of `<nowiki>` and the standard HTML `<pre>` tag: the content will preformatted, and it will not be parsed, but shown as in the wikitext source. If you want preformatted but parsed text, use a space in the beginning of the line instead. For example,

```
<pre>This word is <b>bold</b>.</pre>
 This word is <b>bold</b>.
```

will render as

```
This word is <b>bold</b>.
```

This word is **bold**.

Comments

HTML comments in the wikitext (`<!-- ... -->`) will not appear in the HTML code at all.

Headers

Headers (`<h1>...<h6>`) will be treated in a similar way as wikicode headers:

sample header

Note that it appears in the table of contents and has an accompanying edit link. There are some minor differences though: editing such a section won't prefill the edit summary, and the browser won't jump to the beginning of the section when saving the page. Thus, you should use the wikitext equivalents instead.

Exceptions

In some pages in the MediaWiki namespace (typically the short messages like button labels) HTML does not work, and e.g. `` produces the HTML `` rendered by the browser as ``. Some others are interpreted as pure HTML (thus any tag can be used, but wikicode won't be transformed to HTML).

User CSS and JS pages (see [Help:User style](#)) are interpreted as if inside a `<pre>` block. From MW 1.11 this also goes for sitewide CSS/JS; in earlier versions, you have to manually add `/*<pre>*/` to the beginning and `/*</pre>*/` to the end of those pages to avoid strange rendering.

External links

- HTML 4.01 specification: [elements](http://www.w3.org/TR/html401/index/elements.html) (<http://www.w3.org/TR/html401/index/elements.html>) | [attributes](http://www.w3.org/TR/html401/index/attributes.html) (<http://www.w3.org/TR/html401/index/attributes.html>)
- For customizing the handling of HTML in MediaWiki, see the HTML and Tidy sections in [mw:Manual:Configuration settings](#)
- Some extensions allow adding arbitrary HTML to a page, for example [mw:Extension:AddHTML](#), [mw:Extension:SecureHTML](#) and [mw:Extension:Secure HTML](#); see [\\$wgRawHtml](#) (<http://www.mediawiki.org/wiki/Manual:%24wgRawHtml>) for a more complete list
- Within the MediaWiki codebase, these HTML checks happen in [includes/Sanitizer.php](https://gerrit.wikimedia.org/r/gitweb?p=mediawiki/core.git;a=blob;f=includes/Sanitizer.php;hb=HEAD) (<https://gerrit.wikimedia.org/r/gitweb?p=mediawiki/core.git;a=blob;f=includes/Sanitizer.php;hb=HEAD>)
- you can learn html and css by [these html examples](http://html-css.happycodings.com/) (<http://html-css.happycodings.com/>)

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](#) or from [Meta](#) (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:HTML_in_wikitext) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:HTML_in_wikitext) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:HTML_in_wikitext) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:HTML_in_wikitext) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:HTML_in_wikitext)

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Help:List

This page deals with creating lists in Mediawiki.

Contents

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List basics

MediaWiki offers three types of lists. **Ordered lists**, **unordered lists**, and **definition lists**. In the following sections, ordered lists are used for examples. Unordered lists would give corresponding results.

wikitext	rendering
<pre>* Lists are easy to do: ** start every line * with a star ** more stars mean *** deeper levels</pre>	<ul style="list-style-type: none">■ Lists are easy to do:<ul style="list-style-type: none">■ start every line■ with a star<ul style="list-style-type: none">■ more stars mean<ul style="list-style-type: none">■ deeper levels
<pre>*A newline *in a list marks the end of the list. Of course *you can *start again.</pre>	<ul style="list-style-type: none">■ A newline■ in a list marks the end of the list. Of course <ul style="list-style-type: none">■ you can■ start again.

<pre># Numbered lists are good ## very organized ## easy to follow</pre>	<ol style="list-style-type: none"> 1. Numbered lists are good <ol style="list-style-type: none"> 1. very organized 2. easy to follow
<pre>* You can also **break lines **like this * but sometimes it might be better **to break lines
 like this #in case of numbering
 this is more important! ##otherwise it will look ##like this</pre>	<ul style="list-style-type: none"> ■ You can also <ul style="list-style-type: none"> ■ break lines ■ like this ■ but sometimes it might be better <ul style="list-style-type: none"> ■ to break lines like this <ol style="list-style-type: none"> 1. in case of numbering this is more important! <ol style="list-style-type: none"> 1. otherwise it will look 2. like this
<pre>; Definition lists ; item : definition ; semicolon plus term : colon plus definition</pre>	<p>Definition lists</p> <p>item definition semicolon plus term colon plus definition</p>
<pre>* Or create mixed lists *# and nest them **# like this **#; definitions **#: work: **#: apple **#: banana **#: fruits</pre>	<ul style="list-style-type: none"> ■ Or create mixed lists <ol style="list-style-type: none"> 1. and nest them <ul style="list-style-type: none"> ■ like this <p>definitions work: apple banana fruits</p>

Paragraphs in lists

For simplicity, list items in wiki markup cannot be longer than a paragraph. A following blank line will end the list and reset the counter on ordered lists. Separating unordered list items usually has no noticeable effects.

Paragraphs can be forced in lists by using HTML tags. Two line break symbols, `

`, will create the desired effect. So will enclosing all but the first paragraph with `<p>...</p>`

For a list with items of more than one paragraph long, adding a blank line between items may be necessary to avoid confusion.

Continuing a list item after a sub-item

In HTML, a list item may contain several sublists, not necessarily adjacent; thus there may be parts of the list item not only before the first sublist, but also between sublists, and after the last one; however, in wiki-syntax, sublists follow the same rules as sections of a page: the only possible part of the list item not in sublists is before the first sublist.

In the case of an unnumbered first-level list in wikitext code this limitation can be overcome by splitting the list into multiple lists; indented text between the partial lists may visually serve as part of a list item after a sublist; however, this may give, depending on CSS, a blank line before and after each list, in which case, for uniformity, every first-level list item could be made a separate list.

Numbered lists illustrate that what should look like one list may, for the software, consist of multiple lists; unnumbered lists give a corresponding result, except that the problem of restarting with 1 is not applicable.

<pre> list item A1 list item B1 list item B2 continuing list item A1 list item A2 </pre>	<ol style="list-style-type: none">list item A1<ol style="list-style-type: none">list item B1list item B2continuing list item A1list item A2
vs.	
<pre>#list item A1 ##list item B1 ##list item B2 #:continuing list item A1 #list item A2</pre>	<ol style="list-style-type: none">list item A1<ol style="list-style-type: none">list item B1list item B2continuing list item A1list item A2

One level deeper, with a sublist item continuing after a sub-sublist, one gets even more blank lines; however, the continuation of the first-level list is not affected:

```
#list item A1
##list item B1
###list item C1
##:continuing list item B1
##list item B2
#list item A2
```

gives

- list item A1
 - list item B1
 - list item C1continuing list item B1
- list item B2

2. list item A2

See also [Template:List demo](#) and [subdivisions](#).

Changing the list type

The list type (which type of marker appears before the list item) can be changed in CSS by setting the [list-style-type](http://www.w3.org/TR/REC-CSS2/generate.html#lists) (<http://www.w3.org/TR/REC-CSS2/generate.html#lists>) property:

wikitext	rendering
<pre><ol style="list-style-type:lower-roman"> About the author Foreword to the first edition Foreword to the second edition </pre>	<ol style="list-style-type: none">i. About the authorii. Foreword to the first editioniii. Foreword to the second edition

Extra indentation of lists

In a numbered list in a large font, some browsers do not show more than two digits, unless extra indentation is applied (if there are multiple columns: for each column). This can be done with CSS:

```
ol { margin-left: 2cm}
```

or alternatively, like below.

wikitext	rendering	comments
<pre>:#abc :#def :#ghi</pre>	<ol style="list-style-type: none">1. abc2. def3. ghi	A list of one or more lines starting with a colon creates a definition list (http://www.w3.org/TR/html4/struct/lists.html#edef-DL) without definition terms, and with the items as definition descriptions, hence indented. However, if the colons are in front of the codes "*" or "#" of an unordered or ordered list, the list is treated as one definition description, so the whole list is indented.
<pre> abc def ghi </pre>	<ol style="list-style-type: none">1. abc2. def3. ghi	MediaWiki translates an unordered list (ul) without any list items (li) into a div with a <code>style="margin-left: 2em"</code> , causing indentation of the contents. This is the most versatile method , as it allows starting with a number other than 1, see below.
<pre> #abc #def #ghi </pre>	<ol style="list-style-type: none">1. abc2. def3. ghi	Like above, with the content of the "unordered list without any list items", which itself is an ordered list, expressed with # codes. The HTML produced, and hence the rendering, is the same. This is the recommended method when not starting with a number other than 1.

To demonstrate that all three methods show all digits of 3-digit numbers, see [List demo](#).

Specifying a starting value

Specifying a starting value is possible with HTML syntax. (W3C has deprecated the `start` and `value` attributes as used below in HTML 4.01 and XHTML 1.0. But as of 2007, no popular web browsers implement CSS counters, which were to replace these attributes. Wikimedia projects use XHTML Transitional, which contains the deprecated attributes.)

```
<ol start="9">
<li>Amsterdam</li>
<li>Rotterdam</li>
<li>The Hague</li>
</ol>
```

9. Amsterdam
10. Rotterdam
11. The Hague

Or:

```
<ol>
<li value="9">Amsterdam</li>
<li value="8">Rotterdam</li>
<li value="7">The Hague</li>
</ol>
```

9. Amsterdam
8. Rotterdam
7. The Hague

Comparison with a table

Apart from providing automatic numbering, the numbered list also aligns the contents of the items, comparable with using table syntax:

```
{|
-
| align=right | 9. || Amsterdam
-
| align=right | 10. || Rotterdam
-
| align=right | 11. || The Hague
|}
```

gives

9. Amsterdam
10. Rotterdam
11. The Hague

This non-automatic numbering has the advantage that if a text refers to the numbers, insertion or deletion of an item does not disturb the correspondence.

Multi-column lists

See also [Template:Col-begin](#), [Template:Col-break](#), [Template:Col-end](#).

Multi-column bulleted list

```
<div style="column-count:3;-moz-column-count:3;-webkit-column-count:3">
*apple
*carpet
```

```
*geography
*mountain
*nowhere
*postage
*ragged
*toast
</div>
```

gives:

- apple
- carpet
- geography
- mountain
- nowhere
- postage
- ragged
- toast

Multi-column numbered list

```
<div style="column-count:3;-moz-column-count:3;-webkit-column-count:3">
#apple
#carpet
#geography
#mountain
#nowhere
#postage
#ragged
#toast
</div>
```

gives:

1. apple
2. carpet
3. geography
4. mountain
5. nowhere
6. postage
7. ragged
8. toast

Below a starting value is specified, with HTML-syntax (for the first column either wiki-syntax or HTML-syntax can be used).

In combination with the extra indentation explained in the previous section:

```
{| valign="top"
|-
|<ul><ol start="125"><li>a<li>bb<li>ccc</ol></ul>
|<ul><ol start="128"><li>ddd<li>ee<li>f</ol></ul>
|}
```

gives

125. a 128. ddd
126. bb 129. ee
127. ccc 130. f

Using [Template:Multi-column numbered list](#) the computation of the starting values can be automated, and only the first starting value and the number of items in each column except the last has to be specified. Adding an item to, or removing an item from a column requires adjusting only one number, the number of items in that column, instead of changing the starting numbers for all subsequent columns.

```
{{Multi-column numbered list|125|a<li>bb<li>ccc|3|<li>ddd<li>ee<li>f}}
```

gives

125. a 128. ddd {{{6}}}
126. bb 129. ee
127. ccc 130. f

```
{{Multi-column numbered list|lst=lower-alpha|125|a<li>bb<li>ccc|3|<li>ddd<li>ee|2|<li>f}}
```

gives

du. a dx. ddd dz. f
dv. bb dy. ee
dw. ccc

```
{{Multi-column numbered list|lst=lower-roman|125|a<li>bb<li>ccc|3|<li>ddd<li>ee|2|<li>f}}
```

gives

cxxv. a cxxviii. ddd cxxx. f
cxxvi. bb cxxix. ee
cxxvii. ccc

```
{{Multi-column numbered list|lst=disc||a<li>bb<li>ccc|<li>ddd<li>ee|<li>f}}
```

gives

- a • ddd • f
- bb • ee
- ccc

Streamlined style or horizontal style

It is also possible to present short lists using very basic formatting, such as:

```
'Title of list:' example 1, example 2, example 3
```

Title of list: example 1, example 2, example 3

This style requires less space on the page, and is preferred if there are only a few entries in the list, it can be read easily, and a direct edit point is not required. The list items should start with a lowercase letter unless they are proper nouns.

Tables

A one-column table is very similar to a list, but it allows sorting. If the wikitext itself is already sorted with the same sortkey, this advantage does not apply. A multiple-column table allows sorting on any column.

See also [en:Wikipedia:When to use tables](#).

Changing unordered lists to ordered ones

With the CSS

```
ul { list-style: decimal }
```

unordered lists are changed to ordered ones. This applies (as far as the CSS selector does not restrict this) to all ul-lists in the HTML source code:

- those produced with *
- those with in the wikitext
- those produced by the system

Since each special page, like other pages, has a class based on the pagename, one can separately specify for each type whether the lists should be ordered, see [Help:User contributions#User styles](#) and [Help:What links here#User styles](#).

However, it does not seem possible to make all page history lists ordered (unless one makes *all* lists ordered), because the class name is based on the page for which the history is viewed.

See also

- [w:Help:List](#)
- [mw:Extension:Sort2](#): creates a list with list code only at the start and end, not per item; allows easy change of list type; sorts list

Links to other help pages

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Help:Table

This page gives you information about syntax to build wiki-tables in [MediaWiki](#).

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Spreadsheet to wiki table format

To convert from spreadsheets such as Gnumeric, MS Excel or OpenOffice.org Calc, see <http://tools.wmflabs.org/excel2wiki/>.

Using the toolbar



You can use the [Mediawiki edit toolbar](#) to create tables on Wikipedia, and some Wikimedia projects. It is helpful to generate the necessary codings. However, on many MediaWiki wikis (and by default) the table tool is not available.

Use the first button on the right of the toolbar to insert a table when editing a page.

By default, it includes the following text:

code	result									
<pre>{ class="wikitable" - ! header 1 ! header 2 ! header 3 - row 1, cell 1 row 1, cell 2 row 1, cell 3 - row 2, cell 1 row 2, cell 2 row 2, cell 3 }</pre>	<table border="1"><thead><tr><th>header 1</th><th>header 2</th><th>header 3</th></tr></thead><tbody><tr><td>row 1, cell 1</td><td>row 1, cell 2</td><td>row 1, cell 3</td></tr><tr><td>row 2, cell 1</td><td>row 2, cell 2</td><td>row 2, cell 3</td></tr></tbody></table>	header 1	header 2	header 3	row 1, cell 1	row 1, cell 2	row 1, cell 3	row 2, cell 1	row 2, cell 2	row 2, cell 3
header 1	header 2	header 3								
row 1, cell 1	row 1, cell 2	row 1, cell 3								
row 2, cell 1	row 2, cell 2	row 2, cell 3								

Pipe syntax tutorial

Column heading 1	Column heading 2	Column heading 3
Row heading 1	Cell 2	Cell 100
Row heading A	Cell B	Cell C

Although HTML table syntax also works, special MediaWiki code can be used as a shortcut to create a table. Formatting codes function the same as in [HTML table markup](#). The shortcuts are as follows:

- The entire table is encased with curly brackets and a vertical bar character (a pipe). So use `{|` to begin a table, and `|}` to end it. Each one needs to be on its own line:

```
{|





```

- An optional **table caption** is included with a line starting with a vertical bar and plus sign `"|+"` and the caption after it:

```
{|
|+ caption




```

- To start a new **table row**, type a vertical bar and a hyphen on its own line: `"|-`". The codes for the cells in that row will start on the next line.

```
{|
|+ The table's caption
|-





```


- Type the codes for each *table cell* in the next row, starting with a bar:

```
{|
+ The table's caption
-
| cell codes go here
-
| cells in the next row go here
| more cells in the same row here
|}
```

- Cells can be separated with either a new line and new bar, or by a double bar "||" on the same line. Both produce the same output:

```
{|
+ The table's caption
-
| Cell 1 || Cell 2 || Cell 3
-
| Cell A
| Cell B
| Cell C
|}
```

- If you use single bars, then what might appear to be the first cell is in fact a format modifier applied to the cell, and the rest of your "cells" will be merged into one:

```
{| border="1"
-
| format modifier (not displayed) | These all |(including the pipes) | go into | the first cell
-
|}
```

which is probably not what you want:

These all (including the pipes) go into the first cell
--

However, the format modifier is useful:

```
{| border="1"
-
| Cell 1 (no modifier - not aligned)
-
| align="right" | Cell 2 (right aligned)
-
|}
```

Cell 1 (no modifier - not aligned)
Cell 2 (right aligned)

Just remember: no more than 2 single pipes on a line!

- a row of **column headings** is identified by using "!" instead of "|", and using "!!" instead of "||". Header cells typically render differently from regular cells, depending on the browser. They are often rendered in a bold font and centered.

```
{|
+ The table's caption
! Column heading 1 !! Column heading 2 !! Column heading 3
-
| Cell 1 || Cell 2 || Cell 3
-
| Cell A
| Cell B
| Cell C
|}
```

- the first cell of a row is identified as **row heading** by starting the line with "!" instead of "|", and starting subsequent data cells on a new line.

```
{|
|+ The table's caption
! Column heading 1 !! Column heading 2 !! Column heading 3
|-
! Row heading 1
| Cell 2 || Cell 3
|-
! Row heading A
| Cell B
| Cell C
|}
```

- Optional **parameters** can modify the behavior of cells, rows, or the entire table. For instance, a border could be added to the table:

```
{| border="1"
|+ The table's caption
! Column heading 1 !! Column heading 2 !! Column heading 3
|-
! Row heading 1
| Cell 2 || Cell 3
|-
! Row heading A
| Cell B
| Cell C
|}
```

The final table would display like this:

The table's caption		
Column heading 1	Column heading 2	Column heading 3
Row heading 1	Cell 2	Cell 3
Row heading A	Cell B	Cell C

The table parameters and cell parameters are the same as in [HTML](#), see [1] (<http://www.w3.org/TR/html401/struct/tables.html#def-TABLE>) and [Table \(HTML\)](#). However, the `thead`, `tbody`, `tfoot`, `colgroup`, and `col` elements are currently not supported in [MediaWiki](#).

A table can be useful even if none of the cells have content. For example, the background colors of cells can be changed with cell parameters, making the table into a diagram, like [Template talk:Square 8x8 pentomino example](#). An "image" in the form of a table is much more convenient to edit than an uploaded image.

Each row must have the same number of cells as the other rows, so that the number of columns in the table remains consistent. For empty cells, use the non-breaking space ` `; as content to ensure that the cells are displayed. To show a visible pipe in a cell, use `<nowiki>|</nowiki>` or `|`.

With `colspan` and `rowspan` cells can span several columns or rows, see the [Mélange](#) example below.

Examples

Simple example

Both of these generate the same output. Choose a style based on the number of cells in each row and the total text inside each cell.

Wiki markup

```
{|
| A
```

```
{|
-
| C
| D
|}
}
```

```
{|
| A || B
-
| C || D
|}
}
```

What it looks like in your browser

```
A B
C D
```

Multiplication table

Wiki markup

```
{| class="wikitable" style="text-align:center"
+Multiplication table
-
| &times; !! 1 !! 2 !! 3
-
| 1
| 1 || 2 || 3
-
| 2
| 2 || 4 || 6
-
| 3
| 3 || 6 || 9
-
| 4
| 4 || 8 || 12
-
| 5
| 5 || 10 || 15
|}
}
```

What it looks like in your browser (see: [Help:User_style](#))

Multiplication
table

×	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15

Color; scope of parameters

See also: [Wiki color formatting help](#)

Two ways of specifying color of text and background for a single cell are as follows. The first form is preferred:

Wiki markup

```
{|
| style="background:red; color:white" | abc
| def
| bgcolor="red" |  ghi 
| jkl
|}
```

What it looks like in your browser

abc def ghi jkl

Note: The `bgcolor` is deprecated (<http://www.w3.org/TR/html4/present/graphics.html#h-15.1.1>).

Like other parameters, colors can also be specified for a whole row or the whole table; parameters for a row override the value for the table, and those for a cell override those for a row:

Wiki markup

```
{| style="background:yellow; color:green"
|-
| abc || def || ghi
|- style="background:red; color:white"
| jkl || mno || pqr
|-
| stu || style="background:#C1C1C1" | vwx || yz
|}
```

What it looks like in your browser

abc	def	ghi
jkl	mno	pqr
stu	vwx	yz

To make the table blend in with the background, use `style="background:none"` or `style="background:transparent"`. (Note that `style="background:inherit"` didn't work with old browsers like IE6)

See : [style](#), [background](#), [list of colors](#), [web colors](#)

Width, height

The width and height of the whole table can be specified, as well as the height of a row. To specify the width of a column one can specify the width of an arbitrary cell in it. If the width is not specified for all columns, and/or the height is not specified for all rows, then there is some ambiguity, and the result depends on the browser.

Wiki markup

```
{| style="width:75%; height:200px" border="1"
|-
| abc || def || ghi
|- style="height:100px"
| jkl || style="width:200px" |mno || pqr
|-
| stu || vwx || yz
|}
```

What it looks like in your browser

abc	def	ghi
jkl	mno	pqr
stu	vwx	yz

Note that `style="inline CSS"` used to have no effect with some old browsers. Nowadays you don't have to worry about it but in the past if compatibility was important, equivalent older constructs like `width="75%"` were used since they worked on more browsers.

Setting your column widths

If you wish to force column widths to your own requirements, rather than accepting the width of the widest text element in a column's cells, then follow this example. Note that wrap-around of text is forced.

```
{| border="1" cellpadding="2"
```

```

!width="50"|Name
!width="225"|Effect
!width="225"|Games Found In
-
Poké Ball || Regular Poké Ball || All Versions
-
Great Ball || Better than a Poké Ball || All Versions
}

```

Name	Effect	Games Found In
Poké Ball	Regular Poké Ball	All Versions
Great Ball	Better than a Poké Ball	All Versions

To set column widths in a table without headers, specify the width in the first cell for each column, like this:

```

{ | border="1" cellpadding="2"
-
width="100pt"|This column is 100 points wide
width="200pt"|This column is 200 points wide
width="300pt"|This column is 300 points wide
-
blah || blah || blah
}

```

This column is 100 points wide	This column is 200 points wide	This column is 300 points wide
blah	blah	blah

One application of setting the widths is aligning columns of consecutive tables:

Country	Capital
The Netherlands	Amsterdam

Country	Capital
France	Paris

Vertical alignment

By default data in tables is vertically centrally aligned, which results in odd-looking layouts like this:

Row heading	A longer piece of text. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat	A shorter piece of text.
--------------------	---	--------------------------

	nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.	
Row heading	A longer piece of text.Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.	A shorter piece of text.

To fix this, apply the `valign="top"` attribute to the rows. In HTML5 `valign` attribute is deprecated so use `style="vertical-align:top;"` instead. (Unfortunately it seems to be necessary to apply this individually to every single row. That's why you can try `class="toptextcells"` or `class="wikitable sortable toptextcells"`.) For example:

```
{| border="1" cellpadding="2"
|- valign="top"
width="10%"|'''Row heading'''
width="70%"|A longer piece of text. Lorem ipsum...
width="20%"|A shorter piece of text.
- style="vertical-align:top;"
'''Row heading'''
A longer piece of text. Lorem ipsum...
A shorter piece of text.
}
```

Row heading	A longer piece of text. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.	A shorter piece of text.
Row heading	A longer piece of text.Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.	A shorter piece of text.

Positioning

One can position the table itself, and all contents in a row, and contents in a cell, but not with a single parameter for all contents in the table, see [m:Template talk:Table demo](#).

Mélangé


Here's a more advanced example, showing some more options available for making up tables.

You can play with these settings in your own table to see what effect they have. Not all of these techniques may be appropriate in all cases; just because you can add colored backgrounds, for example, doesn't mean it's always a good idea. Try to keep the markup in your tables relatively simple -- remember, other people are going to be editing the article too! This example should give you an idea of what is possible, though.

Wiki markup

```
{| border="1" cellpadding="5" cellspacing="0" align="center"
+ '''An example table'''
-
! style="background:#efefef;" | First header
! colspan="2" style="background:#ffdead;" | Second header
-
upper left
upper middle
rowspan=2 style="border-bottom:3px solid gray;" valign="top" |right side
-
style="border-bottom:3px solid gray;" | lower left
style="border-bottom:3px solid gray;" | lower middle
-
colspan="3" align="center" |
{| border="0"
+ '''A table in a table'''
-
align="center" width="150px" | [[Image:Wiki.png]]
align="center" width="150px" | [[Image:Wiki.png]]
-
align="center" colspan="2" style="border-top:1px solid #FF0000; border-right:1px solid red;
border-bottom:2px solid red; border-left:1px solid red;" |
Two Wikimedia logos
|}
|}
```

What it looks like in your browser

An example table		
First header	Second header	
upper left	upper middle	right side
lower left	lower middle	
<i>A table in a table</i>		
		
Two Wikimedia logos		

Floating table

Wiki markup

```
This paragraph is before the table. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...
```

```
{| align="right" border="1"
| Col 1, row 1
| rowspan="2"| Col 2, row 1 (and 2)
| Col 3, row 1
-
| Col 1, row 2
| Col 3, row 2
|}
```

Note the floating table to the right.

```
This paragraph is after the table. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...
```

What it looks like in your browser

This paragraph is before the table. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

Note the floating table to the right.

Col 1, row 1	Col 2, row 1 (and 2)	Col 3, row 1
Col 1, row 2		Col 3, row 2

This paragraph is after the table. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

Non-floating tables

Wiki markup

```
This paragraph is before the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...
```

```
{| border="1"
+Left Aligned Table
| Col 1, row 1
| rowspan="2"| Col 2, row 1 (and 2)
| Col 3, row 1
-
| Col 1, row 2
| Col 3, row 2
|}
```

```
<br style="clear:both;">
```

```
This paragraph is between the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...
```

```
{| border="1" align="center"
+Centered Table
| Col 1, row 1
| rowspan="2"| Col 2, row 1 (and 2)
| Col 3, row 1
|-
| Col 1, row 2
| Col 3, row 2
|}
```

<br style="clear:both;">

This paragraph is after the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

What it looks like in your browser

This paragraph is before the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

Left Aligned Table

Col 1, row 1	Col 2, row 1 (and 2)	Col 3, row 1
Col 1, row 2		Col 3, row 2

This paragraph is between the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

Centered Table

Col 1, row 1	Col 2, row 1 (and 2)	Col 3, row 1
Col 1, row 2		Col 3, row 2

This paragraph is after the tables. Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation...

Nested tables

Five different (blue) tables are shown nested inside the cells of a table. Automatically the two tables |A| and |B|B| are vertically aligned instead of the usual side by side of text characters in a cell. "float" is used to fix each of tables |C| and |D| to their own position within one cell of the table. This may be used for charts and schemes. *Nested tables must start on a new line.*

Wiki markup

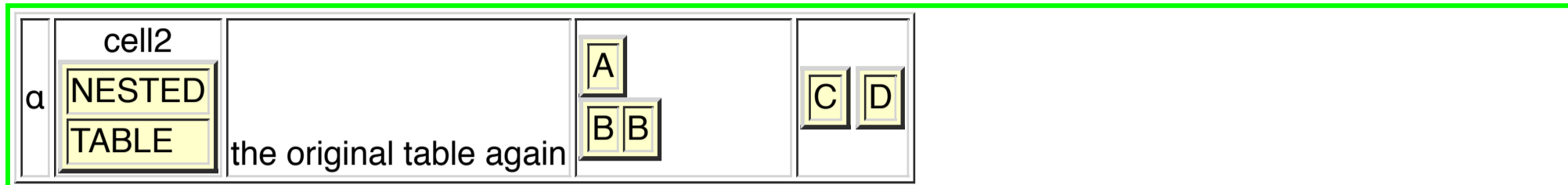
```
1 {| border="1"
2 | &alpha;
3 | align="center" | cell2
4 {| border="2" style="background:#ffffcc" <!-- The nested table must be on a new line -->
5 | NESTED
6 | -
7 | TABLE
8 | }
9 | valign="bottom" | the original table again
10 | style="width:100px" |
11 {| border="2" style="background:#ffffcc"
12 | A
```

```

13 | }
14 | { border="2" style="background:#ffffcc"
15 | B | | B
16 | }
17 | style="width:50px" |
18 | { border="2" style="background:#ffffcc; float:left"
19 | C
20 | }
21 | { border="2" style="background:#ffffcc; float:right"
22 | D
23 | }
24 | }

```

As it appears in a browser:



Combined use of COLSPAN and ROWSPAN

Wiki markup

```

{| border="1" cellpadding="5" cellspacing="0"
|-
| Column 1 || Column 2 || Column 3
|-
| rowspan="2" | A
| colspan="2" align="center" | B
|-
| C <!-- column 1 occupied by cell A -->
| D
|-
| E
| rowspan="2" colspan="2" align="center" | F
|-
| G <!-- column 2+3 occupied by cell F -->
|-
| colspan="3" align="center" | H
}

```

What it looks like in your browser

Column 1	Column 2	Column 3
A	B	
	C	D
E	F	
G		
H		

Note that using `rowspan="2"` for cell **G** combined with `rowspan="3"` for cell **F** to get another row below **G** and **F** won't work, because all (implicit) cells would be empty. Likewise complete columns are not displayed if all their cells are empty. Borders between non-empty and empty cells might be also not displayed (depending on the browser), use ` ` to fill an empty cell with dummy content.

Centering tables

Centered tables can be achieved, but they will not "float"; that is to say, no text will appear to either side. The trick is `{| style="margin: 1em auto 1em auto"`

Wiki markup

```
{| class="wikitable" style="margin: 1em auto 1em auto"
+ '''Cells left-aligned, table centered'''
! Duis || aute || irure
|-
| dolor || in reprehenderit || in voluptate velit
|-
| esse cillum dolore || eu fugiat nulla || pariatur.
|}
```

What it looks like in your browser

Cells left-aligned, table centered		
Duis	aute	irure
dolor	in reprehenderit	in voluptate velit
esse cillum dolore	eu fugiat nulla	pariatur.

Setting parameters

At the start of a cell, add your parameter followed by a single pipe. For example `width="300" |` will set that cell to a width of 300 pixels. To set more than one parameter, leave a space between each one.

Wiki markup

```
{| style="color:white"
|-
| style="background:red"|cell1 || width="300" style="background:blue"|cell2 ||
style="background:green"|cell3
|}
```

What it looks like in your browser

cell1	cell2	cell3
-------	-------	-------

Decimal point alignment

A simple and reliable way to achieve decimal point alignment is to use [Template:0](#), assuming it has been defined along the following lines:

```
<span style="visibility:hidden;color:transparent;">{{{1|0}}}</span>
```

See [wikipedia:Template:o](https://en.wikipedia.org/wiki/Template:o) for further details.

Another method to get columns of numbers aligned at the decimal point is as follows:

Wiki markup

```
{| cellpadding="0" cellspacing="0"
| align="right" | 432 || .1
|-
| align="right" | 43 || .21
|-
| align="right" | 4 || .321
|}
```

What it looks like in your browser

432.1
43.21
4.321

If the column of numbers appears in a table with cell padding or cell spacing, one can still align the decimal points without an unsightly gap in the middle. Embed a table in each number's cell and specify its column widths. Make the embedded tables' column widths the same for each cell in the column. (If decimal points are still misaligned using this method, the main table's column may be too narrow. Add a parameter to increase the column's width.)

Wiki markup

```
{| border="1" cellpadding="4" cellspacing="2" width="50%"
|
{| cellpadding="0" cellspacing="0" width="100%"
| align="right" width="50%" | 432 ||width="50%"| .1
|}
|-
{| cellpadding="0" cellspacing="0" width="100%"
| align="right" width="50%" | 43 ||width="50%"| .21
|}
|-
{| cellpadding="0" cellspacing="0" width="100%"
| align="right" width="50%" | 4 ||width="50%"| .321
|}
|}
```

What it looks like in your browser

432.1
43.21
4.321

In simple cases one can dispense with the table feature and simply start the lines with a space, and put spaces to position the numbers:

```
432.1
 43.21
   4.321
```

Style classes

See also [Help:User style](#).

In the first line of table code, after the "`{|`", instead of specifying a style directly one can also specify a CSS class. The style for this class can be specified in various ways:

- in the software itself, per skin (for example the class `sortable`, used at [wikibits.js](http://en.wikipedia.org/skins-1.5/common/wiki_bits.js) (http://en.wikipedia.org/skins-1.5/common/wiki_bits.js))
- collectively for all users of one wiki in [MediaWiki:Common.css](#) (for example, on this and some other projects there is the class `wikitable`)
- separately per skin in [MediaWiki:Monobook.css](#) etc.
- individually on one wiki in a user subpage
- individually, but jointly for tables of the class concerned on all web pages, on the local computer of the user.

Instead of remembering table parameters, you just include an appropriate style class after the `{|`. This helps keep table formatting consistent, and can allow a single change to the class to fix a problem or enhance the look of all the tables that are using it at once.

For instance, this:

Wiki markup

```
{| border="1"
cellpadding="2"
+Multiplication table
-
! &times; !! 1 !! 2 !!
!3
-
1
| 1 || 2 || 3
-
2
| 2 || 4 || 6
-
3
| 3 || 6 || 9
-
4
| 4 || 8 || 12
-
5
| 5 || 10 || 15
}
```

What it looks like in your browser

Multiplication table

×	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15

becomes with `wikitable` this:

```
{| class="wikitable"
+Multiplication table
-
! &times; !! 1 !! 2 !!
!3
```

```

-
| 1
| 1 || 2 || 3
-
| 2
| 2 || 4 || 6
-
| 3
| 3 || 6 || 9
-
| 4
| 4 || 8 || 12
-
| 5
| 5 || 10 || 15
|}

```

Multiplication table

x	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15

simply by replacing inline CSS for the table by `class="wikitable"`. This is because the *wikitable* class in [MediaWiki:Common.css](#) and the `../skins/common/shared.css` file contain a number of *table.wikitable* CSS style rules. These are all applied at once when you mark a table with the class. You can then add additional style rules if desired. These override the class's rules, allowing you to use the class style as a base and build up on it:

Wiki markup

What it looks like in your browser

```

{| class="wikitable" style="font-
style:italic;
font-size:120%; border:3px dashed
red;"
|+Multiplication table
-
|&times; !! 1 !! 2 !! 3
-
| 1
| 1 || 2 || 3
-
| 2
| 2 || 4 || 6
-
| 3
| 3 || 6 || 9
-
| 4
| 4 || 8 || 12
-
| 5
| 5 || 10 || 15
|}

```

Multiplication table

x	1	2	3
1	1	2	3
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15

Notice that the table retains the gray background of the *wikitable* class, and the headers are still bold and centered. But now the text formatting has been overridden by the local *style* statement; all of the text in the table has been made italic and 120% normal size, and the *wikitable* border has been replaced by the red dashed border.

Of course this works only for browsers supporting inline CSS, if it's important use XHTML markup like `<big>` instead of `"font-size:120%"`, or Wiki markup like `' 'text ' '` instead of `"font-style:italic"`.

Sorting

Tables can be made sortable by adding `class="sortable"`; for details see [Help:Sorting](#). Since this can be very useful, it is wise to keep the possibilities and limitations of this feature in mind when designing a table. For example:

- Do not divide a table into sections by subheaders spanning several rows. Instead, an extra column can be made showing the content of these headers on each row, in a short form.
- Do not have elements spanning several columns; instead, again, repeat the content on each row, in a short form.
- In a column of numbers, do not put text such as "ca." in front of a number—it will sort like zero. Do not put text after the number, and do not put a range of numbers (it does not affect the sorting position for numeric sorting mode, and in the case of a range, the first number determines the position, but if, possibly after sorting this or another column, the element is at the top, it will induce alphabetic sorting mode). Instead, put these texts in a separate column. Alternatively, for the greatest flexibility, alphabetic sorting mode with hidden sortkeys can be used.

A long form of abbreviated content can be put as legend outside the table.

Wiki markup

```
{| class="wikitable sortable"
+Sortable table
|-
! Alphabetic !! Numeric !! Date !! class="unsortable" | Unsortable
|-
d || 2 || 2008-11-24 || This
|-
b || 8 || 2004-03-01 || column
|-
a || 6 || 1979-07-23 || cannot
|-
c || 4 || 1492-12-08 || be
|-
e || 0 || 1601-08-13 || sorted.
}
```

What it looks like in your browser

Sortable table

Alphabetic	Numeric	Date	Unsortable
d	2	2008-11-24	This
b	8	2004-03-01	column
a	6	1979-07-23	cannot
c	4	1492-12-08	be
e	0	1601-08-13	sorted.

Sortable except final row

If the last row of the table should not be sorted (for example, if it contains the sum of figures in the preceding rows) use `class="sortbottom"` before the last row, as the following:

Wiki markup

```
{| class="wikitable sortable"
|-
!Class!!Female!!Male
|-
1 || 22 || 65
|-
2 || 33 || 87
|-
}
```



```

|3| |15| |45
|-
|4| |70| |95
|-
|5| |65| |110
|- class="sortbottom"
|Sum| |205| |402
|}

```

What it looks like in your browser

Class	Female	Male
1	22	65
2	33	87
3	15	45
4	70	95
5	65	110
Sum	205	402

Note that formatting the last row as "footer" cells (i.e., using ! and !! instead of | and | |) has the same effect. See [Help:Sorting § Excluding the last row from sorting](#).

Row template

Regardless of whether wikipable format or HTML is used, the wikitext of the rows within a table, and sometimes even within a collection of tables, has much in common, e.g.:

- the basic code for a table row
- code for color, alignment, and sorting mode
- fixed texts such as units
- special formats for sorting

In that case it can be useful to create a template that produces the syntax for a table row, with the data as parameters. This can have many advantages:

- easily changing the order of columns, or removing a column
- easily adding a new column if many elements of the new column are left blank (if the column is inserted and the existing fields are unnamed, use a named parameter for the new field to avoid adding blank parameter values to many template calls)
- computing fields from other fields, e.g. population density from population and area
- duplicating content and providing span tags with "display:none" for the purpose of having one format for [sorting](#) and another for display
- easy specification of a format for a whole column, such as color and alignment

Example:

Using [Help:table/example row template](#)

```

{| class="wikitable sortable"
|-
! a
! b
! a/b
{{help:table/example row template| 50|200}}
{{help:table/example row template| 8| 11}}
{{help:table/example row template|1000| 81}}

```

```
}}

```

gives:

a	b	a/b
50	200	0.25
8	11	0.72727272727273
1000	81	12.345679012346

Producing table syntax using templates and/or parser functions

When producing table syntax using templates and/or parser functions, a pipe character in a parameter has to be coded `{{!}}`, which uses `Template:!`, to avoid being interpreted as parameter separator for the template or parser function. see [Template:Table example with optional row](#).

In the case of a conditional table row we typically need code of the form "`{{!}}-newline{{!}}.. newline`" as then- or else-part of an if-construct. To avoid trimming, use a [branching template](#) (in this example `Template:Ifnotempty`) that preserves the newline:

```

{{| class=wikitable
{{ifnotempty|x|{{!}}-
{{!}}a
}}{{ifnotempty||{{!}}-
{{!}}b
}}{{ifnotempty||{{!}}-
{{!}}c
}}{{ifnotempty||{{!}}-
{{!}}d
}}{{ifnotempty|x|{{!}}-
{{!}}e
}}
|}

```

gives

a
e

Alternatively, XHTML table syntax can be used. It is not sensitive to line breaks and lets you avoid branching templates, `{{=}}` and extra `{{!}}` hacks.

Other table syntax

Other types of **table** syntax that MediaWiki supports:

1. XHTML
2. HTML & wiki-`<td>` syntax (**Do not use**)

All three are supported by MediaWiki and create (currently) valid HTML output, but the pipe syntax is the simplest. Also, HTML & wiki-`<td>` syntax (i.e., unclosed `<td>` and `<tr>` tags) will not necessarily remain browser-supported in the upcoming future, especially on handheld internet-accessible devices.

Tables using HTML syntax can have pieces in templates only if the variable `$wgUseTidy` has been set, as is the case in most Wikimedia projects.

See also [Table \(HTML\)](#), [HTML element#Tables](#). Note however that the `thead`, `tbody`, `tfoot`, `colgroup`, and `col` elements are currently not supported in MediaWiki.

Comparison of table syntax

[hide] [hide]	XHTML	HTML & Wiki-td	Wiki-pipe				
Table	<code><table></table></code>	<code><table></table></code>	<pre>{ }</pre>				
Caption	<code><caption>caption</caption></code>	<code><caption>caption</caption></code>	<pre> + caption</pre>				
Row	<code><tr></tr></code>	<code><tr></code>	<pre> -</pre>				
Data cell	<pre><td>cell1</td> <td>cell2</td></pre>	<pre><td>cell1 <td>cell2</pre>	<pre> cell1 cell2</pre>				
Data cell	<pre><td>cell1</td> <td>cell2</td> <td>cell3</td></pre>	<pre><td>cell1 <td>cell2 <td>cell3</pre>	<pre> cell1 cell2 cell3</pre>				
Header cell	<code><th>heading</th></code>	<code><th>heading</code>	<pre>! heading</pre>				
	<table border="1" style="margin: auto;"> <tr> <td>1</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> </tr> </table>			1	2	3	4
1	2						
3	4						
Sample table	<pre><table> <tr> <td>1</td> <td>2</td> </tr> </table></pre>	<pre><table> <tr> <td> 1 <td> 2 </tr></pre>	<pre>{ 1 2 - 3 4</pre>				

```

<td>3</td>
<td>4</td>
</tr>
</table>

```

```

<td> 3 <td> 4
</table>

```

```

| }

```

1	2
3	4
5	6

Sample table

```

<table>
  <tr>
    <td>1</td>
    <td>2</td>
  </tr>
  <tr>
    <td>3</td>
    <td>4</td>
  </tr>
  <tr>
    <td>5</td>
    <td>6</td>
  </tr>
</table>

```

```

<table>
  <tr>
    <td> 1 <td> 2
  <tr>
    <td> 3 <td> 4
  <tr>
    <td> 5 <td> 6
</table>

```

```

{ |
| 1 || 2
-
| 3 || 4
-
| 5 || 6
}

```

Pros

- Can be previewed/debugged with any XHTML editor
- Can be formatted for easier reading
- Well-known
- Newlines not needed, but to some extent allowed
- No characters like "|" which can collide with template and parser function syntax
- Harder to shoot yourself in the foot with than HTML, since proper nesting and tag closure are enforced

- Can be previewed/debugged with any HTML editor
- Can be formatted for easier reading
- Well-known
- Takes less space than XHTML
- Newlines not needed, but to some extent allowed
- No characters like "|" which can collide with template and parser function syntax

- Easy to write
- Easy to read
- Takes little space

Cons

- Tedious
- Takes a lot of space
- Difficult to read quickly

- May not have browser support in future

- Unfamiliar syntax
- Rigid structure
- Cannot be indented
- Text (as in HTML tags) may be easier for some people to read than series of pipes, plus signs, exclamation marks, etc.
- Is nothing more than a shortcut for HTML-style tags. Not easily understood by those unfamiliar with HTML table concepts
- Assigning to a template parameter a value containing "|" requires Template:!
- Sensitive to newlines; since these are automatically stripped from templates and parameters in some cases, special techniques are

			sometimes needed to avoid this, see Help:Newlines and spaces
	XHTML	HTML & Wiki-td	Wiki-pipe

See also [Template talk:For#Tables](#).

Pipe syntax in terms of the HTML produced

The pipe syntax, developed by [Magnus Manske](#), substitutes pipes (|) for HTML. There is an [on-line script \(http://www.uni-bonn.de/~manfear/html2wiki-tables.php\)](http://www.uni-bonn.de/~manfear/html2wiki-tables.php) which converts html tables to pipe syntax tables.

The pipes must start at the beginning of a new line, except when separating parameters from content or when using || to separate cells on a single line. The parameters are optional.

Tables

A [table](#) is defined by {| "params" |} which equals <table "params">Insert non-formatted text here </table>

Rows

<tr> tags will be generated automatically for the first row. To start a new row, use

```
| -
```

which results in

```
<tr>
```

Parameters can be added like this:

```
| - params
```

which results in

```
<tr params>
```

Note:

- <tr> tags will be automatically opened at the first <td> equivalent
- <tr> tags will be automatically closed at <tr> and </table> equivalents

Cells

Cells are generated either like this:

```
| cell11
| cell12
| cell13
```

or like this:

```
| cell11 | cell12 | cell13
```

which both equal

```
<td>cell1</td><td>cell2</td><td>cell3</td>
```

so "|" equals "newline" + "|"

Parameters in cells can be used like this:

```
|params|cell1| |params|cell2| |params|cell3
```

which will result in

```
<td params>cell1</td>
<td params>cell2</td>
<td params>cell3</td>
```

Headers

Functions the same way as TD, except "!" is used instead of the opening "|". "!!" can be used instead of "||". Parameters still use "|", though! Example:

```
!params|cell1
```

Captions

A <caption> tag is created by

```
|+ Caption
```

which generates

```
<caption>Caption</caption>
```

You can also use parameters:

```
|+ params|Caption
```

which will generate

```
<caption params>Caption</caption>
```

Displaying the table code which generates a table

The code for a simple wiki markup table inside a *Code box* can be seen below.

```
{| border="5" cellspacing="10" cellpadding="2"
| style="text-align: center;" | [[Image:gnome-system.png]]
|-
| Computer
|-
| Processor Speed: 1.8 GHz
|}
}
```

Above code produces/displays the table below:



Computer

Processor Speed: 1.8 GHz

Below code, generated and displayed the above table's *Code box* code itself, on the screen and web page, inside a blue colored dashed bordered rectangular box.

```
<pre>
{| border="5" cellspacing="5" cellpadding="2"
| style="text-align: center;" | [[Image:gnome-system.png]]
|-
| Computer
|-
| Processor Speed: 1.8 GHz
|}
</pre>
```

Note that, HTML tag **<pre>** was used to achieve displaying the above codes and the *Code box*.

Other alternatives to display table code

In most cases, when a code line is longer than the web browser window's width, then a scrolling bar appears at bottom, to let the viewer slide to the right side (and also left side) to see the rest of the codes, because, the use of **<pre>** tag causes the code line to remain intact, unless an EOL (CR/LF) hidden character is reached in that text line. But having to slide or scroll to the right or left for viewing the full codes is often not comfortable to many readers. To solve such problem, using the **<p>**, **<tt>** and **
** HTML tags, are better than using the **<pre>** tag, as those will limit the length of a line of code according the available space in the web browser's window and therefore will not result in the need to move the scroll-bar right (or left) for viewing. By placing the codes inside the **<tt>...</tt>** HTML tags, codes are displayed with a fixed width text/font, (like the **<pre>** tag uses) for easier reading. HTML tag **
** is used to display (or bring) next line of codes, starting from the next line. HTML tag **<p>** along with its CSS style properties, is used to create the blue colored dashed bordered rectangular box (**Code box**) around the codes, (like the HTML **<pre>** tag, which gets these properties from the main.css (<http://en.wikipedia.org/style/monobook/main.css>) stylesheet file).

An example of table code with a long line is:

```
{| border="5" cellspacing="5" cellpadding="2"
| style="text-align: center;" | [[Image:gnome-system.png]]
|-
| Computer
|-
| style="color: yellow; background-color: green;" | Processor Speed: <span
style="color: white;"> 1.8 GHz </span>
|}
```

producing the below table:



Computer

Processor Speed: 1.8 GHz

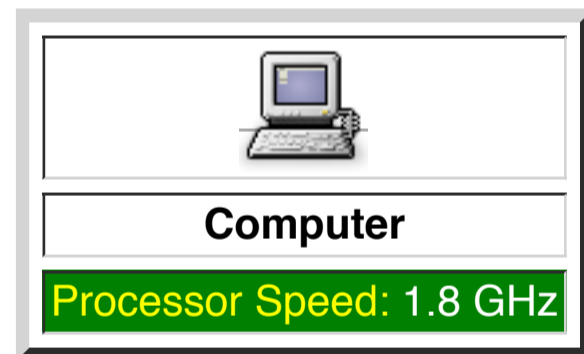
Code box above the table has the auto line wrapping feature enabled. Note the long line (the sixth line from top) inside the codes, which is wrapped inside the *Code box*. This *Code box* and the codes, can be displayed by using below codes in the edit box.

```
<p style="width: 50em; padding: 1em; border: 1px dashed #2f6fab; color: Black; background-color: #f9f9f9; line-height: 1.1em;"> <tt>
<nowiki>{|</nowiki> border="5" cellspacing="5" cellpadding="2" <br />
| style="text-align: center;" | <nowiki>[[</nowiki>Image:gnome-system.png]] <br />
|- <br />
! Computer <br />
|- <br />
| style="color: yellow; background-color: green;" | Processor Speed: <nowiki><span
style="color: white;"></nowiki> 1.8 GHz <nowiki></span></nowiki> <br />
<nowiki>|}</nowiki> <br />
</tt> </p>
```

See the above codes, note that, `<nowiki>...</nowiki>` tags were used to disable wiki markup codes for beginning a table (`{|}`), ending a table (`|}`), start of an image displaying (`[[`), or a hyperlink, etc. All wiki & HTML markup codes need to be disabled by enclosing them inside the `<nowiki>...</nowiki>` tags. If these codes were to be displayed inside another table, then, each `|` (pipe) & `!` (Exclamation mark) symbol also needed to be enclosed inside the `<nowiki>` tags. Note that, the longer line is automatically wrapped according to the width of the web browser's window, inside the *Code box*.

Alternatively, we can replace each `|` (pipe symbol) character with `|` (HTML decimal entity code), replace each `!` (exclamation mark) with `!` code, replace `{` (beginning curly/second bracket) with `{` and we may replace `}` (closing curly/second bracket) with `}` code. Also replace the `<` (less than sign, or beginning angle bracket) with `<` numeric entity code or, replace it with `<` (HTML symbol entity code). For more on HTML decimal or hexadecimal numeric entity codes, please see w:Windows Alt codes. To display the wiki image markup code, we should replace the `[[` (beginning square/third bracket) with `[` and we may replace `]]` (closing square/third bracket) with `]`. When we are replacing characters with their numeric entity codes, we are actually disabling their normal functionality, so we can display them on the web page(s).

By using the numeric entity codes, mentioned in the above paragraph, below codes can display the above *Code box* in another **alternative (better)** way. Note that, the *longer line* is automatically wrapped, without exceeding the browser window's width, inside the below *Code box*.



```
<p style="padding: 1em; border: 1px dashed #2f6fab; color: Black; background-color: #f9f9f9; line-height: 1.1em;"> <tt>
&#123;&#124; border="5" cellspacing="5" cellpadding="2" <br />
&#124; style="text-align: center;" &#124; &#91;&#91;Image:gnome-system.png]] <br />
&#124;- <br />
&#33; Computer <br />
&#124;- <br />
&#124; style="color: yellow; background-color: green;" &#124; Processor Speed: &#60;span
style="color: red;"> 1.8 GHz &#60;/span> <br />
&#124;&#125; <br />
</tt> </p>
```

See also disabling wikitext interpretation and/or reformatting.

Another alternative is to display the source code within a `<source code="html5">...</source>` element (with the additional benefit of keeping HTML comments visible, and coloring the HTML compatible syntax, even if the wiki-specific syntax itself is not colorized where it uses specific delimiters, like `[paired brackets]` for links, `{paired braces}` for templates transclusion or parameters and tables, pipes between template parameters, pipes and exclamation marks between table cells in the same row, `__MAGIC__` keywords, and the specially recognized punctuation at start of lines for lists, indented blocks; preformatted text and section headings ; it also preserves source code indentation with whitespaces).

In that case you can easily format the source code for reasonably short lines, simply by manually inserting newlines and reasonable indentation, without modifying the source wiki code inserted directly in the source element. Embedding wiki code in a source element is then interesting to use instead of embedding it in a pre element, whose rendering is more difficult to read for complex wiki code. That way the source code will render as follows:

```
{| border="5" cellspacing="5" cellpadding="2"
| style="text-align: center;" | [[Image:gnome-system.png]]
|-
| Computer
|-
| style="color: yellow; background-color: green;" | Processor Speed: <span
| style="color: white;"> 1.8&nbsp;GHz </span><!-- this is a long wiki code
| line that has been manually wrapped and slightly indented. -->
|}
```

Note also that HTML named or numeric character entities (such as ` ` or ` `) that are present in the embedded source code will not be substituted by the character they represent, but will be rendered verbatim (and colored specifically).

But note that opening and closing `includeonly/noinclude/includeonly` tags that are present *within* the source code embedded in a `<source code="html5">...</source>` element are still recognized by MediaWiki, and may cause parts of the code not being rendered; the only way to escape these tags is to alter them in the source by inserting some control (such as a zero-width space or word joiner) before or in the middle of their tag name.

Square monitors

To format for a square monitor or window, use a tape measure. Determine the height of your rectangular screen. Using that figure measure under the screen to determine the width your monitor's screen would be if it were square. Mark that location using ink or tape under the screen. Drag the side of your browser's window to that location so the window is square based on accurate measurements. Square monitors and reading windows are not able to contain tables and galleries made for rectangular and wide screens. When a table or gallery is wider than the monitor, it makes every line of text wider than the screen as well. The px amounts of the following gallery were determined after measuring the window to make sure it was square:

Type this:

```
<center>
{| border="0" style="background:transparent;"
|-
|
| [[Image:Some_window_blinds.JPG|192x155px|thumb|left|Various window shades]]
|/
| [[Image:Vert-blinds-2145-rs.jpg|192x170px|thumb|left|Vertical blinds]]
|/
| [[Image:2008-08-24 Carpet array.jpg|192x155px|thumb|left|This is not a blind]]
|}
</center>

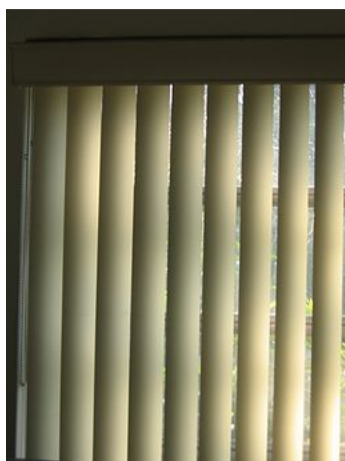
<center>
{| border="0" style="background:transparent;"
|-
|
| [[Image:Vorhang.jpg|192x155px|thumb|left|Solid shade]]
|/
| [[Image:Jalousie-1.jpg|328x155px|thumb|left|Horizontal blinds]]
|}
</center>

<center>
{| border="0" style="background:transparent;"
|-
|
| [[Image:Some_window_blinds.JPG|225px|thumb|left|Shade, shutters; vertical & horizontal blinds.]]
|/
| [[Image:Miniblinds detail of mechanism.jpg|418px|thumb|left|Detail of turning rod (blind stick)
| attachment on miniblinds]]
|}
</center>
```

For this:



Various window shades



Vertical blinds



This is not a blind



Solid shade



Horizontal blinds



Shade, shutters; vertical & horizontal blinds.



Detail of turning rod (blind stick) attachment on miniblinds

Viewing tables in email and web pages outside Wikipedia

Tables are an essential part of presenting information in an easily understandable way. Everything on Wikipedia can be copied elsewhere, and it is encouraged. But Wikipedia tables oftentimes lose their borders when pasted into web pages, blogs, or email.

The Wikipedia table button produces this:

header 1	header 2	header 3
row 1, cell 1	row 1, cell 2	row 1, cell 3
row 2, cell 1	row 2, cell 2	row 2, cell 3

Note the borders around all the cells, and the whole table. Copy and paste the table into your email, and the borders disappear. This makes the table look something like this below. It is much less understandable.

```
header 1      header 2      header 3
row 1, cell 1 row 1, cell 2 row 1, cell 3
row 2, cell 1 row 2, cell 2 row 2, cell 3
```

This is easily fixed. If you want and expect your table to be passed around in email, blogs, and other web pages, then add

border="1"

somewhere in the first line of your chart wikicode. For example;

```
{| class="wikitable" border="1"
|-
! header 1
! header 2
! header 3
|-
| row 1, cell 1
| row 1, cell 2
| row 1, cell 3
|-
| row 2, cell 1
| row 2, cell 2
| row 2, cell 3
}
```

The table will look the same on the Wikipedia page, but it will now also have borders when copied into email, blogs, and other web pages. Bloggers and webmasters will not have to add CSS code in order to see the chart in a format with basic borders.

See also

- [mw:Help:Tables](#)
- [Simplified table syntax](#)
- [Wiki markup tables](#)
- [Table background colors](#)
- [w:en>User:Dcljr/Tables](#)
- [w:Table \(HTML\)](#)
- [Help:Template#A_parameter_value_containing_a_pipe_character](#)
- [Category:Commons charts and graphs - resources.](#)
- [w:Category:Table and column templates](#)

examples:

- [Chess board](#)
 - [Go board](#)
 - [Monopoly board](#)
 - [Square 8x8 pentomino example](#)
-
- [Commons:Convert tables and charts to wiki code](#)

External links

- [de:Wikipedia:Helferlein/VBA-Macro for EXCEL tableconversion](#) published in German-Wikipediaproject (english instructions included)
- [HTML tables to wiki converter at cnic.org \(http://www.cnic.org/html2mediawiki.html\)](http://www.cnic.org/html2mediawiki.html)
- [csv2wp \(http://area23.brightbyte.de/csv2wp.php\)](http://area23.brightbyte.de/csv2wp.php) - converts [comma-separated values](#) (CSV) format to pipe syntax. You may use this to import tables from Excel etc. ([more information](#))
- [pywikipediabot \(http://pywikipediabot.sourceforge.net/\)](http://pywikipediabot.sourceforge.net/) (can convert HTML tables to wiki)
- [HTML-WikiConverter \(http://search.cpan.org/~diberri/\)](http://search.cpan.org/~diberri/). Various versions and languages.
- [csv2other \(http://sourceforge.net/projects/csv2other/\)](http://sourceforge.net/projects/csv2other/). Takes in input an xls or a csv and outputs a file with wiki table format. Sources available. Still Alfa.

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Versions of this help page (for other languages see further)

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Help:Displaying a formula



This page is outdated, but if it were updated, it might still be useful. Please help by correcting, augmenting and revising the text into an up-to-date form.
Note: Consider checking [mw:Extension:Math](#).

MediaWiki uses a subset of **T_EX markup**, including some extensions from [LaTeX](#) and [AMS-LaTeX](#), for mathematical formulae. It generates either [PNG](#) images or simple [HTML](#) markup, depending on [user preferences](#) and the complexity of the expression.

More precisely, MediaWiki filters the markup through [Texvc](#), which in turn passes the commands to T_EX for the actual [rendering](#). Thus, only a limited part of the full T_EX language is supported; see below for details.

To have math rendered, you have to set `$wgUseTeX = true;` in [LocalSettings.php](#).

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

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Technicals

Syntax


Traditionally, math markup goes inside the XML-style tag math: `$...$`. The old edit toolbar has the button for this, and it is possible to customize the WikiEditor toolbar to add a similar button. The icons are like these:  and .

However, one can also use parser function `#tag: {{#tag:math|...}}`; this is more versatile: the wikitext at the dots is first expanded before interpreting the result as T_EX code. Thus it can contain parameters, variables, parser functions and templates. Note however that with this syntax double braces in the T_EX code must have a space in between, to avoid confusion with their use in template calls etc. Also, to produce the character "|" inside the T_EX code, use `{{!}}`.

In T_EX, as in HTML, extra spaces and newlines are ignored.

Rendering

By default, the PNG images are black on white (not transparent), but since bug 8 was fixed (see rev:59550) these colors can be customized for each formula. The colors, as well as font sizes and types, are independent of browser settings or CSS. Font sizes and types will often deviate from what HTML renders. Vertical alignment with the surrounding text can also be a problem (see bug 32694). The css selector of the images is `img.tex`.

The alt text of the PNG images, which is displayed to visually impaired and other readers who cannot see the images, and is also used when the text is selected and copied, defaults to the wikitext that produced the image, excluding the `$` and `$`. You can override this by explicitly specifying an `alt` attribute for the `math` element. For example, `$\sqrt{\pi}$` generates an image  whose alt text is "Square root of pi".

Apart from function and operator names, as is customary in mathematics for variables, letters are in italics; digits are not. For other text, (like variable labels) to avoid being rendered in italics like variables, use `\text`, `\mbox`, or `\mathrm`. You can also define new function names using `\operatorname{...}`. For example, `abc` gives **abc**. This does not work for special characters, they are ignored unless the whole `<math>` expression is rendered in HTML:

- `$\text {abcdefghijklmnopqrstuvwxyzaáâãäåæççd'èéêëìíîïñòóôõö÷øùúûüýÿž}$`
- `$\text {abcdefghijklmnopqrstuvwxyzaáâãäåæççèéêëìíîïñòóôõö÷øùúûüýÿ}\,$`

gives:

- abcdefghijklmnopqrstuvwxy** ÷
- abcdefghijklmnopqrstuvwxy** ÷

See bug 798 for details.

Nevertheless, using `\mbox` instead of `\text`, more characters are allowed

For example,

- `$\mbox {abcdefghijklmnopqrstuvwxyzaáâãäåæççd'èéêëìíîïñòóôõö÷øùúûüýÿž}$`
- `$\mbox {abcdefghijklmnopqrstuvwxyzaáâãäåæççèéêëìíîïñòóôõö÷øùúûüýÿ}\,$`

gives:

- abcdefghijklmnopqrstuvwxy** ÷
- abcdefghijklmnopqrstuvwxy** ÷

But `\mbox{ø}` and `\mbox{þ}` will give an error:

- ø**
- .

Using `\text{}`

- δ
-

Special characters

The following symbols are reserved characters that either have a special meaning under LaTeX or are unavailable in all the fonts.

```
# $ % ^ & _ { } ~ \
```

Some of these can be entered with a backslash in front:

```
<math>\# \$ \% \^ \& \_ \{ \} \~ \</math> gives # $ % ^ & _ { } ~ \
```

Others have special names:

```
<math> \hat{} \quad \tilde{} \quad \backslash </math> gives ^ ~ \
```

TeX and HTML

Before introducing TeX markup for producing special characters, it should be noted that, as this comparison table shows, sometimes similar results can be achieved in HTML (see [Help:Special characters](#)).

TeX Syntax (forcing PNG)	TeX Rendering	HTML Syntax	HTML Rendering
<code><math>\alpha</math></code>	α	<code>{{math <var>&alpha;</var>}}</code>	α
<code><math> f(x) = x^2 \,</math></code>	$f(x) = x^2$	<code>{{math 'f' (<var>x</var>) {{=}} <var>x</var><sup>2</sup>}}</code>	$f(x) = x^2$
<code><math>\sqrt{2}</math></code>	$\sqrt{2}$	<code>{{math {{radical 2}}}}</code>	$\sqrt{2}$
<code><math>\sqrt{1-e^2}</math></code>	$\sqrt{1-e^2}$	<code>{{math {{radical 1 &minus; 'e'&sup2;}}}}</code>	$\sqrt{1-e^2}$

The codes on the left produce the symbols on the right, but the latter can also be put directly in the wikitext, except for '='.

Syntax	Rendering
<pre> &alpha; &beta; &gamma; &delta; &epsilon; &zeta; &eta; &theta; &iota; &kappa; &lambd; &mu; &nu; &xi; &omicron; &pi; &rho; &sigma; &sigmaf; &tau; &upsilon; &phi; &chi; &psi; &omega; &Gamma; &Delta; &Theta; &Lambda; &Xi; &Pi; &Sigma; &Phi; &Psi; &Omega; </pre>	$\alpha \beta \gamma \delta \epsilon \zeta$ $\eta \theta \iota \kappa \lambda \mu \nu$ $\xi \omicron \pi \rho \sigma \varsigma$ $\tau \upsilon \phi \chi \psi \omega$ $\Gamma \Delta \Theta \Lambda \Xi \Pi$ $\Sigma \Phi \Psi \Omega$
<pre> &int; &sum; &prod; &radic; &minus; &plusmn; &infty; &asymp; &prop; {{=}} &equiv; &ne; &le; &ge; &times; &sdot; &divide; &part; &prime; &Prime; &nabla; &permil; &deg; &there4; &Oslash; &oslash; &isin; &notin; &cap; &cup; &sub; &sup; &sube; &supe; &not; &and; &or; &exist; &forall; &rArr; &hArr; &rarr; &harr; &uarr; &alefsym; - &ndash; &mdash; </pre>	$\int \sum \prod \sqrt{-\pm\infty}$ $\approx \propto = \neq \leq \geq$ $\times \cdot \div \partial ' "$ $\nabla \% \circ \cdot \emptyset \emptyset$ $\in \notin \cap \cup \subset \supseteq \supseteq$ $\neg \wedge \vee \exists \forall$ $\Rightarrow \Leftrightarrow \rightarrow \leftrightarrow \uparrow$ $\aleph - - -$

The project has settled on both HTML and TeX because each has advantages in some situations.

Pros of HTML

1. Formulas in HTML behave more like regular text. In-line HTML formulae always align properly with the rest of the HTML text and, to some degree, can be cut-and-pasted (this is not a problem if TeX is rendered using [MathJax](#), and the alignment should not be a problem for PNG rendering once [bug 32694](#) is fixed).
2. The formula's background and font size match the rest of HTML contents (this can be fixed on TeX formulas by using the commands `\pagecolor` and `\definecolor`) and the appearance respects CSS and browser settings while the typeface is conveniently altered to help you identify formulae.
3. Pages using HTML code for formulae use less data to transmit, which is important to users with slow or capped Internet connections (e.g. those using dialup or mobile Internet connections which are either slow or have a data cap).
4. Formulae typeset with HTML code will be accessible to client-side script links (a.k.a. scriptlets).
5. The display of a formula entered using mathematical templates can be conveniently altered by modifying the templates involved; this modification will affect all relevant formulae without any manual intervention.
6. The HTML code, if entered diligently, will contain all semantic information to transform the equation back to TeX or any other code as needed. It can even contain differences TeX does not normally catch, e.g. `{{math|'i'}}` for the [imaginary unit](#) and `{{math|<var>i</var>}}` for an arbitrary index variable.
7. Formulae using HTML code will render as sharp as possible no matter what device is used to render them.

Pros of T_EX

- T_EX is semantically more precise than HTML.
 - In T_EX, "`x`" means "mathematical variable *x*", whereas in HTML "x" is generic and somewhat ambiguous.
 - On the other hand, if you encode the same formula as "`{ {math |<var>x</var> } }`", you get the same visual result *x* and no information is lost. This requires diligence and more typing that could make the formula harder to understand as you type it. However, since there are far more readers than editors, this effort is worth considering if no other rendering options are available (such as MathJax, which was requested on bug 31406 for use on Wikimedia wikis and is being implemented (<http://www.gossamer-threads.com/lists/wiki/wikitech/260990>) on Extension:Math as a new rendering option).
- One consequence of point 1 is that T_EX code can be transformed into HTML, but not vice-versa.^[1] (https://meta.wikimedia.org/wiki/Help:Displaying_a_formula#endnote_diiHTML) This means that on the server side we can always transform a formula, based on its complexity and location within the text, user preferences, type of browser, etc. Therefore, where possible, all the benefits of HTML can be retained, together with the benefits of T_EX. It is true that the current situation is not ideal, but that is not a good reason to drop information/contents. It is more a reason to help improve the situation.
- Another consequence of point 1 is that T_EX can be converted to MathML (e.g. by MathJax) for browsers which support it, thus keeping its semantics and allowing the rendering to be better suited for the reader's graphic device.
- T_EX is the preferred text formatting language of most professional mathematicians, scientists, and engineers. It is easier to persuade them to contribute if they can write in T_EX.
- T_EX has been specifically designed for typesetting formulae, so input is easier and more natural if you are accustomed to it, and output is more aesthetically pleasing if you focus on a single formula rather than on the whole containing page.
- Once a formula is done correctly in T_EX, it will render reliably, whereas the success of HTML formulae is somewhat dependent on browsers or versions of browsers. Another aspect of this dependency is fonts: the serif font used for rendering formulae is browser-dependent and it may be missing some important glyphs. While the browser generally capable to substitute a matching glyph from a different font family, it need not be the case for combined glyphs (compare ' *ā* ' and ' *ā̄* ').
- When writing in T_EX, editors need not worry about whether this or that version of this or that browser supports this or that HTML entity. The burden of these decisions is put on the software. This does not hold for HTML formulae, which can easily end up being rendered wrongly or differently from the editor's intentions on a different browser.^[2] (https://meta.wikimedia.org/wiki/Help:Displaying_a_formula#endnote_browsupp)
- T_EX formulae, by default, render larger and are usually more readable than HTML formulae and are not dependent on client-side browser resources, such as fonts, and so the results are more reliably WYSIWYG.
- While T_EX does not assist you in finding HTML codes or Unicode values (which you can obtain by viewing the HTML source in your browser), cutting and pasting from a T_EX PNG in Wikipedia into simple text will return the LaTeX source.

[^] unless your wikitext follows the style of point 1.2

[^] The entity support problem is not limited to mathematical formulae though; it can be easily solved by using the corresponding characters instead of entities, as the character repertoire links do, except for cases where the corresponding glyphs are visually indiscernible (e.g. – for '–' and − for '-').

In some cases it may be the best choice to use neither T_EX nor the html-substitutes, but instead the simple ASCII symbols of a standard keyboard (see below, for an example).

Functions, symbols, special characters

Accents/diacritics

<code>\acute{a}</code> <code>\grave{a}</code> <code>\hat{a}</code> <code>\tilde{a}</code> <code>\breve{a}</code>	<i>áàâãä</i>
<code>\check{a}</code> <code>\bar{a}</code> <code>\ddot{a}</code> <code>\dot{a}</code>	<i>ǎāăâ</i>

Standard functions

<code>\sin a</code> <code>\cos b</code> <code>\tan c</code>	<i>sin a cos b tan c</i>
<code>\sec d</code> <code>\csc e</code> <code>\cot f</code>	<i>sec d csc e cot f</i>
<code>\arcsin h</code> <code>\arccos i</code> <code>\arctan j</code>	<i>arcsin h arccos i arctan j</i>
<code>\sinh k</code> <code>\cosh l</code> <code>\tanh m</code> <code>\coth n</code>	<i>sinh k cosh l tanh m coth n</i>
<code>\operatorname{sh}o\,</code> <code>\operatorname{ch}p\,</code> <code>\operatorname{th}q</code>	<i>sh o ch p th q</i>
<code>\operatorname{arsinh}r\,</code> <code>\operatorname{arcosh}s\,</code> <code>\operatorname{artanh}t</code>	<i>arsinh r arcosh s artanh t</i>
<code>\lim u</code> <code>\limsup v</code> <code>\liminf w</code> <code>\min x</code> <code>\max y</code>	<i>lim u lim sup v lim inf w min x max y</i>
<code>\inf z</code> <code>\sup a</code> <code>\exp b</code> <code>\ln c</code> <code>\lg d</code> <code>\log e</code> <code>\log_{10} f</code> <code>\ker g</code>	<i>inf z sup a exp b ln c lg d log e log₁₀ f ker g</i>
<code>\deg h</code> <code>\gcd i</code> <code>\Pr j</code> <code>\det k</code> <code>\hom l</code> <code>\arg m</code> <code>\dim n</code>	<i>deg h gcd i Pr j det k hom l arg m dim n</i>

Modular arithmetic

<code>s_k \equiv 0 \pmod{m}</code>	<i>s_k ≡ 0 (mod m)</i>
<code>a\,,\bmod\,,b</code>	<i>a mod b</i>

Derivatives

∇ , ∂ , $\frac{\partial}{\partial x}$, $\frac{\partial^2}{\partial x^2}$, $\frac{dy}{dx}$, $\frac{d^2y}{dx^2}$	$\nabla \partial_x \partial_{x_i} \partial_{x_j} \frac{dy}{dx} \frac{d^2y}{dx^2} \frac{\partial^2 y}{\partial x_1 \partial x_2}$
---	--

Sets

\forall , \exists , \emptyset , \varnothing	$\forall \exists \emptyset \varnothing$
\in , \ni , \notin , \subset , \subseteq , \supset , \supseteq	$\in \ni \notin \subset \subseteq \supset \supseteq$
\cap , \bigcap , \cup , \bigcup , \setminus , \smallsetminus	$\cap \bigcap \cup \bigcup \setminus \smallsetminus$
\sqsubset , \sqsubseteq , \sqsupset , \sqsupseteq , \sqcap , \sqcup , \bigsqcup	$\sqsubset \sqsubseteq \sqsupset \sqsupseteq \sqcap \sqcup \bigsqcup$

Operators

$+$, \oplus , \pm , \mp , $-$	$+ \oplus \pm \mp -$
\times , \otimes , \cdot , \bullet , \odot	$\times \otimes \cdot \bullet \odot$
$*$, $/$, \div , $\frac{1}{2}$	$** / \div \frac{1}{2}$

Logic

\wedge , \bigwedge , \bar{q} , \rightarrow , p	$\wedge \bigwedge \bar{q} \rightarrow p$
\vee , \bigvee , \neg , q , $\&$	$\vee \bigvee \neg q \&$

Root

$\sqrt{2}$, $\sqrt[n]{x}$	$\sqrt{2} \sqrt[n]{x}$
----------------------------	------------------------

Relations

\sim , \approx , \simeq , \cong , $\dot{=}$, $\overset{\text{def}}{=}$	$\sim \approx \simeq \cong \dot{=} \overset{\text{def}}{=}$
$<$, \leq , \ll , \gg , \geq , \equiv , \neq , \propto	$< \leq \ll \gg \geq \equiv \neq \propto$
\lessapprox , \lesssim , \eqslantless , \leqq , \geqq , \eqslantgtr , \gtrsim , \gtrapprox	$\lessapprox \lesssim \eqslantless \leqq \geqq \eqslantgtr \gtrsim \gtrapprox$

Geometric

\Diamond , \Box , \triangle , \angle , \perp , \mid , \ , 45°	$\diamond \square \triangle \angle \perp \mid \text{\ } 45^\circ$
--	---

Arrows

<code>\leftarrow</code> (or <code>\gets</code>) <code>\rightarrow</code> (or <code>\to</code>) <code>\nrightarrow</code> <code>\rrightarrow</code> <code>\leftrightharpoonrightarrow</code> <code>\nleftarrow</code> <code>\longleftarrow</code> <code>\longrightarrow</code> <code>\longrightharpoonrightarrow</code>	
<code>\Leftarrow</code> <code>\Rightarrow</code> <code>\Leftrightarrow</code> <code>\nLeftarrow</code> <code>\nRightarrow</code> <code>\Leftrightharpoonrightarrow</code> <code>\nLeftrightharpoonrightarrow</code> <code>\Longleftarrow</code> (or <code>\impliedby</code>) <code>\Longrightarrow</code> (or <code>\implies</code>) <code>\Longleftrightharpoonrightarrow</code> (or <code>\iff</code>)	
<code>\uparrow</code> <code>\downarrow</code> <code>\updownarrow</code> <code>\Uparrow</code> <code>\Downarrow</code> <code>\Updownarrow</code> <code>\nearrow</code> <code>\searrow</code> <code>\swarrow</code> <code>\nwarrow</code>	
<code>\rightharpoonup</code> <code>\rightharpoondown</code> <code>\leftharpoonup</code> <code>\leftharpoondown</code> <code>\upharpoonleft</code> <code>\upharpoonright</code> <code>\downharpoonleft</code> <code>\downharpoonright</code> <code>\rightleftharpoons</code> <code>\leftrightharpoons</code>	
<code>\curvearrowleft</code> <code>\circlearrowleft</code> <code>\Lsh</code> <code>\upuparrows</code> <code>\rightrightarrows</code> <code>\rightleftarrows</code> <code>\Rrightarrow</code> <code>\rightarrowtail</code> <code>\looparrowright</code>	
<code>\curvearrowright</code> <code>\circlearrowright</code> <code>\Rsh</code> <code>\downdownarrows</code> <code>\leftleftarrows</code> <code>\leftrightharpoons</code> <code>\Lleftarrow</code> <code>\leftarrowtail</code> <code>\looparrowleft</code>	
<code>\mapsto</code> <code>\longmapsto</code> <code>\hookrightarrow</code> <code>\hookleftarrow</code> <code>\multimap</code> <code>\leftrightsquigarrow</code> <code>\rightsquigarrow</code>	

Special

<code>\And</code> <code>\eth</code> <code>\S</code> <code>\P</code> <code>\%</code> <code>\dagger</code> <code>\ddagger</code> <code>\ldots</code> <code>\cdots</code> <code>\colon</code>	
<code>\smile</code> <code>\frown</code> <code>\wr</code> <code>\triangleleft</code> <code>\triangleright</code> <code>\infty</code> <code>\bot</code> <code>\top</code>	
<code>\vdash</code> <code>\vDash</code> <code>\Vdash</code> <code>\models</code> <code>\lVert</code> <code>\rVert</code> <code>\imath</code> <code>\hbar</code>	
<code>\ell</code> <code>\mho</code> <code>\Finv</code> <code>\Re</code> <code>\Im</code> <code>\wp</code> <code>\complement</code>	
<code>\diamondsuit</code> <code>\heartsuit</code> <code>\clubsuit</code> <code>\spadesuit</code> <code>\Game</code> <code>\flat</code> <code>\natural</code> <code>\sharp</code>	

Unsorted (new stuff)

<code>\vartriangle</code> <code>\triangledown</code> <code>\lozenge</code> <code>\circledS</code> <code>\measuredangle</code> <code>\nexists</code> <code>\Bbbk</code> <code>\backprime</code> <code>\blacktriangle</code> <code>\blacktriangledown</code>	
<code>\square</code> <code>\blacksquare</code> <code>\blacklozenge</code> <code>\bigstar</code> <code>\sphericalangle</code> <code>\diagup</code> <code>\diagdown</code> <code>\dotplus</code> <code>\Cap</code> <code>\Cup</code> <code>\barwedge</code>	
<code>\veebar</code> <code>\doublebarwedge</code> <code>\boxminus</code> <code>\boxtimes</code> <code>\boxdot</code> <code>\boxplus</code> <code>\divideontimes</code> <code>\ltimes</code> <code>\rtimes</code> <code>\leftthreetimes</code>	
<code>\rightthreetimes</code> <code>\curlywedge</code> <code>\curlyvee</code> <code>\circleddash</code> <code>\circledast</code> <code>\circledcirc</code> <code>\centerdot</code> <code>\intercal</code> <code>\leqq</code> <code>\leqslant</code>	
<code>\eqslantless</code> <code>\lessapprox</code> <code>\approxeq</code> <code>\lessdot</code> <code>\lll</code> <code>\lessgtr</code> <code>\lesseqgtr</code> <code>\lesseqqgtr</code> <code>\doteqdot</code> <code>\risingdotseq</code>	
<code>\fallingdotseq</code> <code>\backsim</code> <code>\backsimeq</code> <code>\subeteqq</code> <code>\Subset</code> <code>\preccurlyeq</code> <code>\curlyeqprec</code> <code>\precsim</code> <code>\precapprox</code> <code>\vartriangleleft</code>	
<code>\Vvdash</code> <code>\bumpeq</code> <code>\Bumpeq</code> <code>\eqsim</code> <code>\gtrdot</code>	
<code>\ggg</code> <code>\gtrless</code> <code>\gtreqless</code> <code>\gtreqqless</code> <code>\eqcirc</code> <code>\circeq</code> <code>\triangleq</code> <code>\thicksim</code> <code>\thickapprox</code> <code>\supseteqq</code>	
<code>\Supset</code> <code>\succcurlyeq</code> <code>\curlyeqsucc</code> <code>\succsim</code> <code>\succapprox</code> <code>\vartriangleright</code> <code>\shortmid</code> <code>\between</code> <code>\shortparallel</code> <code>\pitchfork</code>	
<code>\varpropto</code> <code>\blacktriangleleft</code> <code>\therefore</code> <code>\backepsilon</code> <code>\blacktriangleright</code> <code>\because</code> <code>\nleqslant</code> <code>\nleqq</code> <code>\lneq</code> <code>\lneqq</code>	
<code>\lvertneqq</code> <code>\lnsim</code> <code>\lnapprox</code> <code>\nprec</code> <code>\npreceq</code> <code>\precneqq</code> <code>\precnsim</code> <code>\precnapprox</code> <code>\nsim</code> <code>\nshortmid</code>	
<code>\nvDash</code> <code>\nVdash</code> <code>\ntriangleleft</code> <code>\ntrianglelefteq</code> <code>\nsubseteq</code> <code>\nsubseteqq</code> <code>\varsubsetneq</code> <code>\subsetneqq</code> <code>\varsubsetneqq</code> <code>\ngtr</code>	
<code>\subsetneq</code>	
<code>\ngeqslant</code> <code>\ngeqq</code> <code>\gneq</code> <code>\gneqq</code> <code>\gvertneqq</code> <code>\gnsim</code> <code>\gnapprox</code> <code>\nsucc</code> <code>\nsucceq</code> <code>\succneqq</code>	
<code>\succnsim</code> <code>\succnapprox</code> <code>\ncong</code> <code>\nshortparallel</code> <code>\nparallel</code> <code>\nvDash</code> <code>\nVdash</code> <code>\ntriangleright</code> <code>\ntrianglerighteq</code> <code>\nsupseteq</code>	
<code>\nsupseteqq</code> <code>\varsupsetneq</code> <code>\supsetneqq</code> <code>\varsupsetneqq</code>	
<code>\jmath</code> <code>\surd</code> <code>\ast</code> <code>\uplus</code> <code>\diamond</code> <code>\bigtriangleup</code> <code>\bigtriangledown</code> <code>\ominus</code>	
<code>\oslash</code> <code>\odot</code> <code>\bigcirc</code> <code>\amalg</code> <code>\prec</code> <code>\succ</code> <code>\preceq</code> <code>\succeq</code>	
<code>\dashv</code> <code>\asymp</code> <code>\doteq</code> <code>\parallel</code>	
<code>\ulcorner</code> <code>\urcorner</code> <code>\llcorner</code> <code>\lrcorner</code>	
<code>\Coppa</code> <code>\coppa</code> <code>\varcoppa</code> <code>\Digamma</code> <code>\Koppa</code> <code>\koppa</code> <code>\Sampi</code> <code>\sampi</code> <code>\Stigma</code> <code>\stigma</code> <code>\varstigma</code>	

Larger expressions

Subscripts, superscripts, integrals

Feature	Syntax	How it looks rendered
Superscript	<code>a^2</code>	a^2
Subscript	<code>a_2</code>	a_2
Grouping	<code>a^{2+2}</code>	a^{2+2}
	<code>a_{i,j}</code>	$a_{i,j}$
Combining sub & super without and with horizontal separation	<code>x_2^3</code>	x_2^3
	<code>{x_2}^3</code>	x_2^3
Super super	<code>10^{10^{8}}</code>	10^{10^8}
Preceding and/or Additional sub & super	<code>_nP_k</code>	${}_nP_k$
	<code>\sideset{_1^2}{_3^4}\prod_a^b</code>	${}_1^2 \prod_a^b {}_3^4$
	<code>{_1^2}\!\!\Omega_3^4</code>	${}_1^2 \Omega_3^4$
Stacking	<code>\overset{\alpha}{\omega}</code>	$\overset{\alpha}{\omega}$
	<code>\underset{\alpha}{\omega}</code>	$\underset{\alpha}{\omega}$
	<code>\overset{\alpha}{\underset{\gamma}{\omega}}</code>	$\overset{\alpha}{\underset{\gamma}{\omega}}$
	<code>\stackrel{\alpha}{\omega}</code>	$\overset{\alpha}{\omega}$
Derivatives	<code>x', y'', f', f''</code>	x', y'', f', f''
	<code>x^\prime, y^{\prime\prime}</code>	x', y''
Derivative dots	<code>\dot{x}, \ddot{x}</code>	\dot{x}, \ddot{x}
Underlines, overlines, vectors	<code>\hat{a} \ \ \bar{b} \ \ \vec{c}</code>	$\hat{a} \ \ \bar{b} \ \ \vec{c}$
	<code>\overrightarrow{a b} \ \ \overleftarrow{c d} \ \ \widehat{d e f}</code>	$\overrightarrow{ab} \ \ \overleftarrow{cd} \ \ \widehat{def}$
	<code>\overline{g h i} \ \ \underline{j k l}</code>	$\overline{ghi} \ \ \underline{jkl}$
	<code>\not 1 \ \ \cancel{123}</code>	$\cancel{1} \ \ \cancel{123}$
Arrows	<code>A \xleftarrow{n+\mu-1} B \xrightarrow[T]{n\pm i-1} C</code>	$A \xleftarrow{n+\mu-1} B \xrightarrow[T]{n\pm i-1} C$
Overbraces	<code>\overbrace{ 1+2+\cdots+100 }^{\text{sum}=,=,5050}</code>	$\overbrace{1+2+\cdots+100}^{\text{sum}=,=,5050}$
Underbraces	<code>\underbrace{ a+b+\cdots+z }_{26\text{ terms}}</code>	$\underbrace{a+b+\cdots+z}_{26 \text{ terms}}$
Sum	<code>\sum_{k=1}^N k^2</code>	$\sum_{k=1}^N k^2$
Sum (force <code>\textstyle</code>)	<code>\textstyle \sum_{k=1}^N k^2</code>	$\sum_{k=1}^N k^2$
Product	<code>\prod_{i=1}^N x_i</code>	$\prod_{i=1}^N x_i$
Product (force <code>\textstyle</code>)	<code>\textstyle \prod_{i=1}^N x_i</code>	$\prod_{i=1}^N x_i$
Coproduct	<code>\coprod_{i=1}^N x_i</code>	$\prod_{i=1}^N x_i$
Coproduct (force <code>\textstyle</code>)	<code>\textstyle \coprod_{i=1}^N x_i</code>	$\prod_{i=1}^N x_i$
Limit	<code>\lim_{n \to \infty} x_n</code>	$\lim_{n \rightarrow \infty} x_n$
Limit (force <code>\textstyle</code>)	<code>\textstyle \lim_{n \to \infty} x_n</code>	$\lim_{n \rightarrow \infty} x_n$
Integral	<code>\int\limits_{1}^3 \frac{e^3/x}{x^2} \, dx</code>	$\int_1^3 \frac{e^3/x}{x^2} \, dx$

		$\int_1^3 \frac{e^3/x}{x^2} dx$
Integral (alternate limits style)	<code>\int_{1}^{3}\frac{e^3/x}{x^2}\, dx</code>	$\int_1^3 \frac{e^3/x}{x^2} dx$
Integral (force <code>\textstyle</code>)	<code>\textstyle \int\limits_{-N}^N e^x\, dx</code>	$\int_{-N}^N e^x dx$
Integral (force <code>\textstyle</code> , alternate limits style)	<code>\textstyle \int_{-N}^N e^x\, dx</code>	$\int_{-N}^N e^x dx$
Double integral	<code>\iint\limits_D \, dx\,dy</code>	$\iint_D dx dy$
Triple integral	<code>\iiint\limits_E \, dx\,dy\,dz</code>	$\iiint_E dx dy dz$
Quadruple integral	<code>\iiiiint\limits_F \, dx\,dy\,dz\,dt</code>	$\iiint_F dx dy dz dt$
Line or path integral	<code>\int_C x^3\, dx + 4y^2\, dy</code>	$\int_C x^3 dx + 4y^2 dy$
Closed line or path integral	<code>\oint_C x^3\, dx + 4y^2\, dy</code>	$\oint_C x^3 dx + 4y^2 dy$
Intersections	<code>\bigcap_1^n p</code>	$\bigcap_1^n p$
Unions	<code>\bigcup_1^k p</code>	$\bigcup_1^k p$

Fractions, matrices, multilines

Feature	Syntax	How it looks rendered
Fractions	<code>\frac{1}{2}=0.5</code>	$\frac{1}{2} = 0.5$
Small ("text style") fractions	<code>\tfrac{1}{2} = 0.5</code>	$\frac{1}{2} = 0.5$
Large ("display style") fractions	<code>\dfrac{k}{k-1} = 0.5</code>	$\frac{k}{k-1} = 0.5$
Mixture of large and small fractions	<code>\dfrac{ \tfrac{1}{2}[1-(\tfrac{1}{2})^n] }{ 1-\tfrac{1}{2} } = s_n</code>	$\frac{\frac{1}{2}[1-(\frac{1}{2})^n]}{1-\frac{1}{2}} = s_n$
Continued fractions (note the difference in formatting)	<pre> \cfrac{2}{c + \cfrac{2}{d + \cfrac{1}{2}}} = a \qqquad \dfrac{2}{c + \dfrac{2}{d + \dfrac{1}{2}}} = a </pre>	$\frac{2}{c + \frac{2}{d + \frac{1}{2}}} = a \quad \frac{2}{c + \frac{2}{d + \frac{1}{2}}} = a$
Binomial coefficients	<code>\binom{n}{k}</code>	$\binom{n}{k}$
Small ("text style") binomial coefficients	<code>\tbinom{n}{k}</code>	$\binom{n}{k}$
Large ("display style") binomial coefficients	<code>\dbinom{n}{k}</code>	$\binom{n}{k}$
	<pre> \begin{matrix} x & y \\ z & v \end{matrix} </pre>	$\begin{matrix} x & y \\ z & v \end{matrix}$
	<pre> \begin{vmatrix} x & y \\ z & v \end{vmatrix} </pre>	$\begin{vmatrix} x & y \\ z & v \end{vmatrix}$
	<pre> \begin{Vmatrix} </pre>	

	<pre>x & y \\ z & v \end{vmatrix}</pre>	$\begin{vmatrix} x & y \\ z & v \end{vmatrix}$															
Matrices	<pre>\begin{bmatrix} 0 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & 0 \end{bmatrix}</pre>	$\begin{bmatrix} 0 & \cdots & 0 \\ \vdots & \ddots & \vdots \\ 0 & \cdots & 0 \end{bmatrix}$															
	<pre>\begin{Bmatrix} x & y \\ z & v \end{Bmatrix}</pre>	$\begin{Bmatrix} x & y \\ z & v \end{Bmatrix}$															
	<pre>\begin{pmatrix} x & y \\ z & v \end{pmatrix}</pre>	$\begin{pmatrix} x & y \\ z & v \end{pmatrix}$															
	<pre>\bigl(\begin{smallmatrix} a&b \\ c&d \end{smallmatrix} \bigr)</pre>	$\begin{pmatrix} a & b \\ c & d \end{pmatrix}$															
Arrays	<pre>\begin{array}{ c c c } a & b & S \\ \hline 0&0&1 \\ 0&1&1 \\ 1&0&1 \\ 1&1&0 \end{array}</pre>	<table border="1"> <thead> <tr> <th>a</th> <th>b</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	a	b	S	0	0	1	0	1	1	1	0	1	1	1	0
a	b	S															
0	0	1															
0	1	1															
1	0	1															
1	1	0															
Cases	<pre>f(n) = \begin{cases} n/2, & \mbox{if } n \mbox{ is even} \\ 3n+1, & \mbox{if } n \mbox{ is odd} \end{cases}</pre>	$f(n) = \begin{cases} n/2, & \text{if } n \text{ is even} \\ 3n + 1, & \text{if } n \text{ is odd} \end{cases}$															
System of equations	<pre>\begin{cases} 3x + 5y + z = 1 \\ 7x - 2y + 4z = 2 \\ -6x + 3y + 2z = 3 \end{cases}</pre>	$\begin{cases} 3x + 5y + z = 1 \\ 7x - 2y + 4z = 2 \\ -6x + 3y + 2z = 3 \end{cases}$															
Breaking up a long expression so it wraps when necessary	<pre><math>f(x) = \sum_{n=0}^{\infty} a_n x^n</math> <math>= a_0 + a_1x + a_2x^2 + \cdots</math></pre>	$f(x) = \sum_{n=0}^{\infty} a_n x^n$ $= a_0 + a_1x + a_2x^2 + \cdots$															
Multiline equations	<pre>\begin{align} f(x) &= (a+b)^2 \\ &= a^2+2ab+b^2 \end{align}</pre>	$f(x) = (a + b)^2$ $= a^2 + 2ab + b^2$															
	<pre>\begin{alignat}{2} f(x) &= (a-b)^2 \\ &= a^2-2ab+b^2 \end{alignat}</pre>	$f(x) = (a - b)^2$ $= a^2 - 2ab + b^2$															
Multiline equations with alignment specified (left, center, right)	<pre>\begin{array}{lcl} z & = & a \\ f(x,y,z) & = & x + y + z \end{array}</pre>	$z = a$ $f(x, y, z) = x + y + z$															

```

\begin{array}{lcr}
z & = & a \\
f(x,y,z) & = & x + y + z
\end{array}

```

$$z = a$$

$$f(x,y,z) = x + y + z$$

Parenthesizing big expressions, brackets, bars

Feature	Syntax	How it looks rendered
Bad	<code>(\frac{1}{2})</code>	$(\frac{1}{2})$
Good	<code>\left (\frac{1}{2} \right)</code>	$\left(\frac{1}{2}\right)$

You can use various delimiters with `\left` and `\right`:

Feature	Syntax	How it looks rendered
Parentheses	<code>\left (\frac{a}{b} \right)</code>	$\left(\frac{a}{b}\right)$
Brackets	<code>\left [\frac{a}{b} \right]</code> <code>\quad</code> <code>\left \lbrack \frac{a}{b} \right \rbrack</code>	$\left[\frac{a}{b}\right]$ $\left[\frac{a}{b}\right]$
Braces (note the backslash before the braces in the code)	<code>\left \{ \frac{a}{b} \right \}</code> <code>\quad</code> <code>\left \lbrace \frac{a}{b} \right \rbrace</code>	$\left\{\frac{a}{b}\right\}$ $\left\{\frac{a}{b}\right\}$
Angle brackets	<code>\left \langle \frac{a}{b} \right \rangle</code>	$\left\langle\frac{a}{b}\right\rangle$
Bars and double bars (note: "bars" provide the absolute value function)	<code>\left \frac{a}{b} \right </code> <code>\quad</code> <code>\left \lvert \frac{c}{d} \right \lvert</code>	$\left \frac{a}{b}\right $ $\left \frac{c}{d}\right $
Floor and ceiling functions:	<code>\left \lfloor \frac{a}{b} \right \rfloor</code> <code>\quad</code> <code>\left \lceil \frac{c}{d} \right \rceil</code>	$\left\lfloor\frac{a}{b}\right\rfloor$ $\left\lceil\frac{c}{d}\right\rceil$
Slashes and backslashes	<code>\left / \frac{a}{b} \right \backslash</code>	$\left/\frac{a}{b}\backslash$
Up, down and up-down arrows	<code>\left \uparrow \frac{a}{b} \right \downarrow</code> <code>\quad</code> <code>\left \Uparrow \frac{a}{b} \right \Downarrow</code> <code>\quad</code> <code>\left \updownarrow \frac{a}{b} \right \Updownarrow</code>	$\left\uparrow\frac{a}{b}\downarrow\right.$ $\left\Uparrow\frac{a}{b}\Downarrow\right.$ $\left\updownarrow\frac{a}{b}\Updownarrow\right.$
Delimiters can be mixed, as long as <code>\left</code> and <code>\right</code> are both used	<code>\left [0,1 \right)</code> <code>\quad</code> <code>\left \langle \psi \right </code>	$[0,1)$ $\langle\psi $
Use <code>\left.</code> or <code>\right.</code> if you don't want a delimiter to appear:	<code>\left . \frac{A}{B} \right \}</code> <code>\to X</code>	$\left.\frac{A}{B}\right\} \rightarrow X$
Size of the delimiters	<code>\big(\Big(\bigg(\Bigg(\dots \Bigg] \bigg] \Big] \big]</code>	$\left(\left(\left(\left(\dots\right)\right)\right)\right)$
	<code>\big\{ \Big\{ \bigg\{ \Bigg\{ \dots \Bigg\rangle \bigg\rangle \Big\rangle \big\rangle</code>	$\left\{\left\{\left\{\left\{\dots\right\}\right\}\right\}\right\}$
	<code>\big \Big \bigg \Bigg \dots \Bigg\lvert \bigg\lvert \Big\lvert \big\lvert</code>	$\left \left \left \left \dots\right \right \right \right $
	<code>\big\lfloor \Big\lfloor \bigg\lfloor \Bigg\lfloor \dots \Bigg\rceil \bigg\rceil \Big\rceil \big\rceil</code>	$\left\lfloor\left\lfloor\left\lfloor\left\lfloor\dots\right\rfloor\right\rfloor\right\rfloor\right\rfloor$
	<code>\big\uparrow \Big\uparrow \bigg\uparrow \Bigg\uparrow \dots \Bigg\downarrow \bigg\downarrow \Big\downarrow \big\downarrow</code>	$\left\uparrow\uparrow\uparrow\dots\downarrow\downarrow\downarrow\right.$
	<code>\big\updownarrow \Big\updownarrow \bigg\updownarrow \Bigg\updownarrow \dots \Bigg\Updownarrow \bigg\Updownarrow \Big\Updownarrow \big\Updownarrow</code>	$\left\updownarrow\updownarrow\dots\Updownarrow\Updownarrow\right.$
	<code>\big / \Big / \bigg / \Bigg / \dots \Bigg\backslash \bigg\backslash \Big\backslash \big\backslash</code>	$\left//\Big//\bigg//\Bigg//\dots\Bigg\backslash\bigg\backslash\Big\backslash\big\backslash$

Alphabets and typefaces

Texvc cannot render arbitrary Unicode characters. Those it can handle can be entered by the expressions below. For others, such as Cyrillic, they can be entered as Unicode or HTML entities in running text, but cannot be used in displayed formulas.

Greek alphabet

<code>\Alpha \Beta \Gamma \Delta \Epsilon \Zeta</code>	ΑΒΓΔΕΖ
<code>\Eta \Theta \Iota \Kappa \Lambda \Mu</code>	ΗΘΙΚΛΜ
<code>\Nu \Xi \Omicron \Pi \Rho \Sigma \Tau</code>	ΝΞΟΠΡΣΤ
<code>\Upsilon \Phi \Chi \Psi \Omega</code>	ΥΦΧΨΩ
<code>\alpha \beta \gamma \delta \epsilon \zeta</code>	αβγδεζ
<code>\eta \theta \iota \kappa \lambda \mu</code>	ηθικλμ
<code>\nu \xi \omicron \pi \rho \sigma \tau</code>	νξπορστ
<code>\upsilon \phi \chi \psi \omega</code>	υφχψω
<code>\varepsilon \digamma \vartheta \varkappa</code>	εϜϑκ
<code>\varpi \varrho \varsigma \varphi</code>	ωρςφ

Blackboard Bold/Scripts

<code>\mathbb{A} \mathbb{B} \mathbb{C} \mathbb{D} \mathbb{E} \mathbb{F} \mathbb{G}</code>	ΑΒΓΔΕΦΓ
<code>\mathbb{H} \mathbb{I} \mathbb{J} \mathbb{K} \mathbb{L} \mathbb{M}</code>	ΗΙΪΚΛΜ
<code>\mathbb{N} \mathbb{O} \mathbb{P} \mathbb{Q} \mathbb{R} \mathbb{S} \mathbb{T}</code>	ΝΟΠΡΣΤ
<code>\mathbb{U} \mathbb{V} \mathbb{W} \mathbb{X} \mathbb{Y} \mathbb{Z}</code>	UVWXYZ
<code>\C \N \Q \R \Z</code>	CNQRZ

boldface (vectors)

<code>\mathbf{A} \mathbf{B} \mathbf{C} \mathbf{D} \mathbf{E} \mathbf{F} \mathbf{G}</code>	ΑΒΓΔΕΦΓ
<code>\mathbf{H} \mathbf{I} \mathbf{J} \mathbf{K} \mathbf{L} \mathbf{M}</code>	ΗΙΪΚΛΜ
<code>\mathbf{N} \mathbf{O} \mathbf{P} \mathbf{Q} \mathbf{R} \mathbf{S} \mathbf{T}</code>	ΝΟΠΡΣΤ
<code>\mathbf{U} \mathbf{V} \mathbf{W} \mathbf{X} \mathbf{Y} \mathbf{Z}</code>	UVWXYZ
<code>\mathbf{a} \mathbf{b} \mathbf{c} \mathbf{d} \mathbf{e} \mathbf{f} \mathbf{g}</code>	abcdefg
<code>\mathbf{h} \mathbf{i} \mathbf{j} \mathbf{k} \mathbf{l} \mathbf{m}</code>	hijklm
<code>\mathbf{n} \mathbf{o} \mathbf{p} \mathbf{q} \mathbf{r} \mathbf{s} \mathbf{t}</code>	nopqrst
<code>\mathbf{u} \mathbf{v} \mathbf{w} \mathbf{x} \mathbf{y} \mathbf{z}</code>	uvwxyz
<code>\mathbf{0} \mathbf{1} \mathbf{2} \mathbf{3} \mathbf{4}</code>	01234
<code>\mathbf{5} \mathbf{6} \mathbf{7} \mathbf{8} \mathbf{9}</code>	56789

Boldface (greek)

<code>\boldsymbol{\Alpha} \boldsymbol{\Beta} \boldsymbol{\Gamma} \boldsymbol{\Delta} \boldsymbol{\Epsilon} \boldsymbol{\Zeta}</code>	ΑΒΓΔΕΖ
<code>\boldsymbol{\Eta} \boldsymbol{\Theta} \boldsymbol{\Iota} \boldsymbol{\Kappa} \boldsymbol{\Lambda} \boldsymbol{\Mu}</code>	ΗΘΙΚΛΜ
<code>\boldsymbol{\Nu} \boldsymbol{\Xi} \boldsymbol{\Pi} \boldsymbol{\Rho} \boldsymbol{\Sigma} \boldsymbol{\Tau}</code>	ΝΞΟΠΡΣΤ
<code>\boldsymbol{\Upsilon} \boldsymbol{\Phi} \boldsymbol{\Chi} \boldsymbol{\Psi} \boldsymbol{\Omega}</code>	ΥΦΧΨΩ
<code>\boldsymbol{\alpha} \boldsymbol{\beta} \boldsymbol{\gamma} \boldsymbol{\delta} \boldsymbol{\epsilon} \boldsymbol{\zeta}</code>	αβγδεζ
<code>\boldsymbol{\eta} \boldsymbol{\theta} \boldsymbol{\iota} \boldsymbol{\kappa} \boldsymbol{\lambda} \boldsymbol{\mu}</code>	ηθικλμ
<code>\boldsymbol{\nu} \boldsymbol{\xi} \boldsymbol{\pi} \boldsymbol{\rho} \boldsymbol{\sigma} \boldsymbol{\tau}</code>	νξπρστ
<code>\boldsymbol{\upsilon} \boldsymbol{\phi} \boldsymbol{\chi} \boldsymbol{\psi} \boldsymbol{\omega}</code>	υφχψω
<code>\boldsymbol{\varepsilon} \boldsymbol{\digamma} \boldsymbol{\vartheta} \boldsymbol{\varkappa}</code>	εϜϑκ
<code>\boldsymbol{\varpi} \boldsymbol{\varrho} \boldsymbol{\varsigma} \boldsymbol{\varphi}</code>	ωρςφ

Italics

<code>\mathit{A} \mathit{B} \mathit{C} \mathit{D} \mathit{E} \mathit{F} \mathit{G}</code>	<i>ΑΒΓΔΕΦΓ</i>
<code>\mathit{H} \mathit{I} \mathit{J} \mathit{K} \mathit{L} \mathit{M}</code>	<i>ΗΙΪΚΛΜ</i>
<code>\mathit{N} \mathit{O} \mathit{P} \mathit{Q} \mathit{R} \mathit{S} \mathit{T}</code>	<i>ΝΟΠΡΣΤ</i>
<code>\mathit{U} \mathit{V} \mathit{W} \mathit{X} \mathit{Y} \mathit{Z}</code>	<i>UVWXYZ</i>
<code>\mathit{a} \mathit{b} \mathit{c} \mathit{d} \mathit{e} \mathit{f} \mathit{g}</code>	<i>abcdefg</i>

<code>\mathit{h}</code> <code>\mathit{i}</code> <code>\mathit{j}</code> <code>\mathit{k}</code> <code>\mathit{l}</code> <code>\mathit{m}</code>	<i>hijklm</i>
<code>\mathit{n}</code> <code>\mathit{o}</code> <code>\mathit{p}</code> <code>\mathit{q}</code> <code>\mathit{r}</code> <code>\mathit{s}</code> <code>\mathit{t}</code>	<i>nopqrst</i>
<code>\mathit{u}</code> <code>\mathit{v}</code> <code>\mathit{w}</code> <code>\mathit{x}</code> <code>\mathit{y}</code> <code>\mathit{z}</code>	<i>vwxyz</i>
<code>\mathit{0}</code> <code>\mathit{1}</code> <code>\mathit{2}</code> <code>\mathit{3}</code> <code>\mathit{4}</code>	<i>01234</i>
<code>\mathit{5}</code> <code>\mathit{6}</code> <code>\mathit{7}</code> <code>\mathit{8}</code> <code>\mathit{9}</code>	<i>56789</i>
Roman typeface	
<code>\mathrm{A}</code> <code>\mathrm{B}</code> <code>\mathrm{C}</code> <code>\mathrm{D}</code> <code>\mathrm{E}</code> <code>\mathrm{F}</code> <code>\mathrm{G}</code>	ABCDEFG
<code>\mathrm{H}</code> <code>\mathrm{I}</code> <code>\mathrm{J}</code> <code>\mathrm{K}</code> <code>\mathrm{L}</code> <code>\mathrm{M}</code>	HIJKLM
<code>\mathrm{N}</code> <code>\mathrm{O}</code> <code>\mathrm{P}</code> <code>\mathrm{Q}</code> <code>\mathrm{R}</code> <code>\mathrm{S}</code> <code>\mathrm{T}</code>	NOPQRST
<code>\mathrm{U}</code> <code>\mathrm{V}</code> <code>\mathrm{W}</code> <code>\mathrm{X}</code> <code>\mathrm{Y}</code> <code>\mathrm{Z}</code>	UVWXYZ
<code>\mathrm{a}</code> <code>\mathrm{b}</code> <code>\mathrm{c}</code> <code>\mathrm{d}</code> <code>\mathrm{e}</code> <code>\mathrm{f}</code> <code>\mathrm{g}</code>	abcdefg
<code>\mathrm{h}</code> <code>\mathrm{i}</code> <code>\mathrm{j}</code> <code>\mathrm{k}</code> <code>\mathrm{l}</code> <code>\mathrm{m}</code>	hijklm
<code>\mathrm{n}</code> <code>\mathrm{o}</code> <code>\mathrm{p}</code> <code>\mathrm{q}</code> <code>\mathrm{r}</code> <code>\mathrm{s}</code> <code>\mathrm{t}</code>	nopqrst
<code>\mathrm{u}</code> <code>\mathrm{v}</code> <code>\mathrm{w}</code> <code>\mathrm{x}</code> <code>\mathrm{y}</code> <code>\mathrm{z}</code>	vwxyz
<code>\mathrm{0}</code> <code>\mathrm{1}</code> <code>\mathrm{2}</code> <code>\mathrm{3}</code> <code>\mathrm{4}</code>	01234
<code>\mathrm{5}</code> <code>\mathrm{6}</code> <code>\mathrm{7}</code> <code>\mathrm{8}</code> <code>\mathrm{9}</code>	56789
Fraktur typeface	
<code>\mathfrak{A}</code> <code>\mathfrak{B}</code> <code>\mathfrak{C}</code> <code>\mathfrak{D}</code> <code>\mathfrak{E}</code> <code>\mathfrak{F}</code> <code>\mathfrak{G}</code>	ⒶⒷⒸⒹⒺⒻ
<code>\mathfrak{H}</code> <code>\mathfrak{I}</code> <code>\mathfrak{J}</code> <code>\mathfrak{K}</code> <code>\mathfrak{L}</code> <code>\mathfrak{M}</code>	ⓗⓣⓖⓗⓞⓟ
<code>\mathfrak{N}</code> <code>\mathfrak{O}</code> <code>\mathfrak{P}</code> <code>\mathfrak{Q}</code> <code>\mathfrak{R}</code> <code>\mathfrak{S}</code> <code>\mathfrak{T}</code>	ⓃⓅⓆⓇⓈⓉ
<code>\mathfrak{U}</code> <code>\mathfrak{V}</code> <code>\mathfrak{W}</code> <code>\mathfrak{X}</code> <code>\mathfrak{Y}</code> <code>\mathfrak{Z}</code>	ⓊⓋⓌⓍⓎⓏ
<code>\mathfrak{a}</code> <code>\mathfrak{b}</code> <code>\mathfrak{c}</code> <code>\mathfrak{d}</code> <code>\mathfrak{e}</code> <code>\mathfrak{f}</code> <code>\mathfrak{g}</code>	ⓐⓑⓔⓕⓖⓗⓞ
<code>\mathfrak{h}</code> <code>\mathfrak{i}</code> <code>\mathfrak{j}</code> <code>\mathfrak{k}</code> <code>\mathfrak{l}</code> <code>\mathfrak{m}</code>	ⓓⓔⓕⓖⓗⓞ
<code>\mathfrak{n}</code> <code>\mathfrak{o}</code> <code>\mathfrak{p}</code> <code>\mathfrak{q}</code> <code>\mathfrak{r}</code> <code>\mathfrak{s}</code> <code>\mathfrak{t}</code>	ⓃⓅⓆⓇⓈⓉ
<code>\mathfrak{u}</code> <code>\mathfrak{v}</code> <code>\mathfrak{w}</code> <code>\mathfrak{x}</code> <code>\mathfrak{y}</code> <code>\mathfrak{z}</code>	ⓊⓋⓌⓍⓎⓏ
<code>\mathfrak{0}</code> <code>\mathfrak{1}</code> <code>\mathfrak{2}</code> <code>\mathfrak{3}</code> <code>\mathfrak{4}</code>	ⓐⓑⓔⓕⓖ
<code>\mathfrak{5}</code> <code>\mathfrak{6}</code> <code>\mathfrak{7}</code> <code>\mathfrak{8}</code> <code>\mathfrak{9}</code>	ⓓⓔⓕⓖⓗ
Calligraphy/Script	
<code>\mathcal{A}</code> <code>\mathcal{B}</code> <code>\mathcal{C}</code> <code>\mathcal{D}</code> <code>\mathcal{E}</code> <code>\mathcal{F}</code> <code>\mathcal{G}</code>	<i>ABCDEFG</i>
<code>\mathcal{H}</code> <code>\mathcal{I}</code> <code>\mathcal{J}</code> <code>\mathcal{K}</code> <code>\mathcal{L}</code> <code>\mathcal{M}</code>	<i>HIJKLM</i>
<code>\mathcal{N}</code> <code>\mathcal{O}</code> <code>\mathcal{P}</code> <code>\mathcal{Q}</code> <code>\mathcal{R}</code> <code>\mathcal{S}</code> <code>\mathcal{T}</code>	<i>NOPQRST</i>
<code>\mathcal{U}</code> <code>\mathcal{V}</code> <code>\mathcal{W}</code> <code>\mathcal{X}</code> <code>\mathcal{Y}</code> <code>\mathcal{Z}</code>	<i>UVWXYZ</i>
Hebrew	
<code>\aleph</code> <code>\beth</code> <code>\gimel</code> <code>\daleth</code>	א ב ג ד

Feature	Syntax	How it looks rendered
non-italicised characters	<code>\mbox{abc}</code>	abc
mixed italics (bad)	<code>\mbox{if} n \mbox{is even}</code>	<i>ifn</i> is even
mixed italics (good)	<code>\mbox{if } n\mbox{ is even}</code>	<i>if n</i> is even
mixed italics (more legible: ~ is a non-breaking space, while "\ " forces a space)	<code>\mbox{if}~n\ \mbox{is even}</code>	<i>if n</i> is even

Color

Equations can use color:

- `{\color{Blue}x^2}+{\color{YellowOrange}2x}-{\color{OliveGreen}1}`

$$x^2 + 2x - 1$$

- `x_{1,2}=\frac{-b\pm\sqrt{\color{Red}b^2-4ac}}{2a}`

$$x_{1,2} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

See here for [all named colors \(http://oregonstate.edu/~Epeterseb/tex/samples/docs/color-package-demo.pdf\)](http://oregonstate.edu/~Epeterseb/tex/samples/docs/color-package-demo.pdf) supported by LaTeX.

Note that color should not be used as the *only* way to identify something, because it will become meaningless on black-and-white media or for color-blind people. See [en:Wikipedia:Manual of Style#Color coding](#).

Formatting issues

Spacing

Note that T_EX handles most spacing automatically, but you may sometimes want manual control.

Feature	Syntax	How it looks rendered
double quad space	<code>a \qquad b</code>	<i>a</i> <i>b</i>
quad space	<code>a \quad b</code>	<i>a</i> <i>b</i>
text space	<code>a\ b</code>	<i>a b</i>
text space without PNG conversion	<code>a \mbox{ } b</code>	<i>a b</i>
large space	<code>a\;b</code>	<i>a b</i>
medium space	<code>a\>b</code>	[not supported]
small space	<code>a\,b</code>	<i>a b</i>
no space	<code>ab</code>	<i>ab</i>
small negative space	<code>a\!b</code>	<i>ab</i>

Automatic spacing may be broken in very long expressions (because they produce an overfull hbox in T_EX):

```
<math>0+1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19+20+\cdots</math>
```

0 + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20 + ...

This can be remedied by putting a pair of braces `{ }` around the whole expression:

```
<math>\{0+1+2+3+4+5+6+7+8+9+10+11+12+13+14+15+16+17+18+19+20+\cdots\}</math>
```

0 + 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20 + ...

Alignment with normal text flow

Due to the default css

```
img.tex { vertical-align: middle; }
```

an inline expression like $\int_{-N}^N e^x dx$ should look good.

If you need to align it otherwise, use `$...$` and play with the `vertical-align` argument until you get it right; however, how it looks may depend on the browser and the browser settings.

Also note that if you rely on this workaround, if/when the rendering on the server gets fixed in future releases, as a result of this extra manual offset your formulae will suddenly be aligned incorrectly. So use it sparingly, if at all.

Commutative diagrams

To make a [commutative diagram](#), there are three steps:

- Write the diagram in [T_EX](#)
- Convert to [SVG](#)
- Upload the file to [Wikimedia Commons](#)

Diagrams in T_EX

[Xy-pic \(http://www.tug.org/applications/Xy-pic/\)](http://www.tug.org/applications/Xy-pic/) (online manual (<http://tex.loria.fr/graph-pack/doc-xypic/xyguide-html/xyguide-html.html>)) is the most powerful and general-purpose diagram package in T_EX.

Simpler packages include:

- [AMS's amscd](http://www.dante.de/CTAN/help/Catalogue/entries/amscd.html) (<http://www.dante.de/CTAN/help/Catalogue/entries/amscd.html>)
- Paul Taylor's [diagrams](http://www.ctan.org/tex-archive/macros/generic/diagrams/taylor/) (<http://www.ctan.org/tex-archive/macros/generic/diagrams/taylor/>)
- François Borceux [Diagrams](http://www.ctan.org/tex-archive/help/Catalogue/entries/borceux.html) (<http://www.ctan.org/tex-archive/help/Catalogue/entries/borceux.html>)

The following is a template for Xy-pic, together with a [hack](#) to increase the [margins](#) in [dvips](#), so that the diagram is not truncated by over-eager cropping (suggested in [TUGboat](#) [TUGboat](#), Volume 17 1996, No. 3 (<http://www.tug.org/TUGboat/Articles/tb17-3/tb52rahtz.pdf>)):

```

\documentclass{amsart}
\usepackage[all, ps]{xy} % Loading the XY-Pic package
                        % Using postscript driver for smoother curves
\usepackage{color}     % For invisible frame
\begin{document}
\thispagestyle{empty} % No page numbers
\SelectTips{eu}{}     % Euler arrowheads (tips)
\setlength{\fboxsep}{0pt} % Frame box margin
{\color{white}\framebox{{\color{black}}$$ % Frame for margin

\xymatrix{ % The diagram is a 3x3 matrix
%%% Diagram goes here %%%
}
}
}
} % end math, end frame
\end{document}

```

Convert to SVG

Once you have produced your diagram in LaTeX (or T_EX), you can convert it to an SVG file using the following sequence of commands:

```

pdflatex file.tex
pdfcrop --clip file.pdf tmp.pdf
pdf2svg tmp.pdf file.svg
(rm tmp.pdf at the end)

```

pdflatex and the [pdfcrop](http://pdfcrop.sourceforge.net) (<http://pdfcrop.sourceforge.net>) and [pdf2svg](http://www.cityinthesky.co.uk/pdf2svg.html) (<http://www.cityinthesky.co.uk/pdf2svg.html>) utilities are needed for this procedure.

If you do not have these programs, you can also use the commands

```

latex file.tex
dvi2pdf file.dvi

```

to get a PDF version of your diagram.

Programs

In general, you will not be able to get anywhere with diagrams without T_EX and Ghostscript, and the [inkscape](#) program is a useful tool for creating or modifying your diagrams by hand. There is also a utility [pstoedit](#) which supports direct conversion from Postscript files to many vector graphics formats, but it requires a non-free plugin to convert to SVG, and regardless of the format, [this editor](#) has not been successful in using it to convert diagrams with diagonal arrows from T_EX-created files.

These programs are:

- a working T_EX distribution, such as [TeX Live](#)
- [Ghostscript](#)
- [pstoedit](#)
- [Inkscape](#)

Upload the file

See also: [commons:Commons:First steps/Upload form](#)
See also: [en:Help:Contents/Images and media](#)

As the diagram is your own work, upload it to [Wikimedia Commons](#), so that all projects (notably, all languages) can use it without having to copy it to their language's Wiki. (If you've previously uploaded a file to somewhere other than Commons, [transwiki it](#) to Commons.)

Check size

Before uploading, check that the default size of the image is neither too large nor too small by opening in an [SVG application](#) and viewing at default size (100% scaling), otherwise adjust the `-y` option to `dvips`.

Name

Make sure the file has a [meaningful name](#).

Upload

[Login to Wikimedia Commons](#), then [upload the file](#) (<http://commons.wikimedia.org/w/index.php?title=Special:Upload&uselang=ownwork>); for the **Summary**, give a brief description.

Now go to the [image page](#) and add a [description](#), including the **source code**, using this template (using `{{Information}}`):

```
{{Information
|Description =
|{{en| Description [[[:en:Link to WP page|topic]]
}}
|Source = {{own}}
```

Created as per:

```
[[[:en:meta:Help:Displaying a formula#Commutative diagrams]]]; source code below.
Date = The Creation Date, like 1999-12-31
Author = [[User:YourUserName|Your Real Name]]
Permission = Public domain; (or other license) see below.
}}

== LaTeX source ==
<source lang="latex">
% LaTeX source here
</source>

== [[Commons:Copyright tags|Licensing]]: ==
{{self|PD-self (or other license)|author=[[User:YourUserName|Your Real Name]]}}

[[Category:Descriptive categories, such as "Group theory"]]
[[Category:Commutative diagrams]]
```

Source code

- Include the source code in the [image page](#), in a `LaTeX source` section, so that the diagram can be edited in future.
- Include the complete `.tex` file, not just the fragment, so future editors do not need to reconstruct a compilable file.

License

The most common license for commutative diagrams is [PD-self](#); some use [PD-ineligible](#), especially for simple diagrams, or other licenses. Please *do not* use the [GFDL](http://www.gnu.org/copyleft/fdl.html) (<http://www.gnu.org/copyleft/fdl.html>), as it requires the entire text of the GFDL to be attached to any document that uses the diagram.

Description

If possible, link to a Wikipedia page relevant to the diagram.

Category

Include `[[Category:Commutative diagrams]]`, so that it appears in [commons:Category:Commutative diagrams](#). There are also subcategories, which you may choose to use.

Include image

Now include the image on the original page via `[[Image:Diagram.svg]]`

Examples

A sample conforming diagram is [commons:Image:PSU-PU.svg](#).

Chemistry

There are two ways to render chemical sum formulae as used in chemical equations:

- `<math chem>`
- `<chem>`

`<chem>X</chem>` is short for `<math chem>\ce{X}</chem>`

(where X is a chemical sum formula)

Technically, `<math chem>` is a `math` tag with the extension `mhchem` enabled, according to the [mathjax documentation](http://mathjax.readthedocs.org/en/latest/tex.html#mhchem) (<http://mathjax.readthedocs.org/en/latest/tex.html#mhchem>).

Note, that the commands `\cee` and `\cf` are disabled, because they are marked as deprecated in the [mhchem LaTeX package documentation](http://www.ctan.org/pkg/mhchem) (<http://www.ctan.org/pkg/mhchem>).

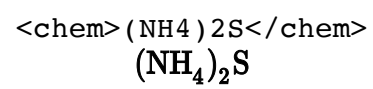
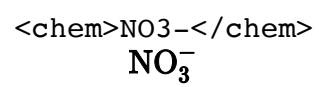
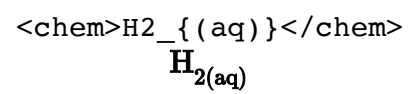
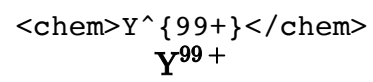
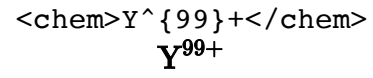
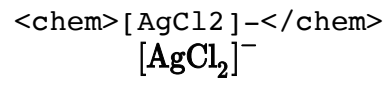
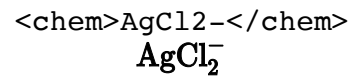
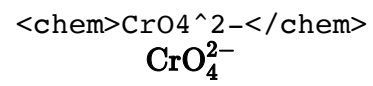
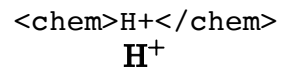
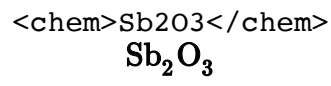
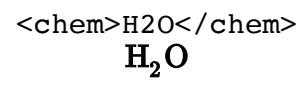
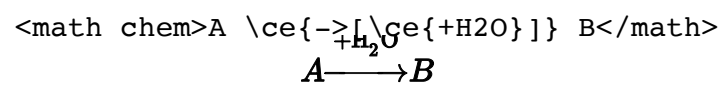
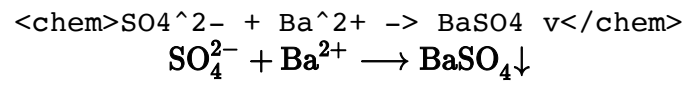
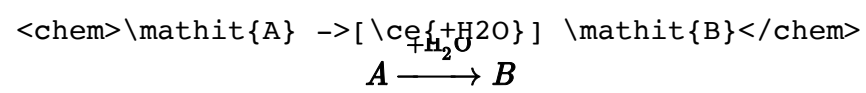
If the formula reaches a certain "complexity", spaces might be ignored (`<chem>A + B</chem>` might be rendered as if it were `<chem>A+B</chem>` with a positive charge). In that case, write `<chem>A{ } + B</chem>` (and *not* `<chem>{A} + {B}</chem>` as was previously suggested). This will allow auto-cleaning of formulae once the bug will be fixed and/or a newer `mhchem` version will be used.

See examples below.

Examples

Chemistry

```
<chem>C6H5-CHO</chem>
C6H5-CHO
```



Quadratic Polynomial

$$ax^2 + bx + c = 0$$

$$\text{\chem{ax^2 + bx + c = 0}}$$

Quadratic Polynomial (Force PNG Rendering)

$$ax^2 + bx + c = 0$$

$$\text{\chem{ax^2 + bx + c = 0}}$$

Quadratic Formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$\text{\chem{x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}}}$$

Tall Parentheses and Fractions

$$2 = \left(\frac{(3-x) \times 2}{3-x} \right)$$

`$2 = \left(\frac{\left(3-x\right) \times 2}{3-x} \right)$`

$$S_{\text{new}} = S_{\text{old}} - \frac{(5-T)^2}{2}$$

`$S_{\text{new}} = S_{\text{old}} - \frac{\left(5-T\right)^2}{2}$`

Integrals

$$\int_a^x \int_a^s f(y) dy ds = \int_a^x f(y)(x-y) dy$$

`$\int_a^x \int_a^s f(y) dy ds = \int_a^x f(y)(x-y) dy$`

Summation

$$\sum_{m=1}^{\infty} \sum_{n=1}^{\infty} \frac{m^2 n}{3^m (m 3^n + n 3^m)}$$

`$\sum_{m=1}^{\infty} \sum_{n=1}^{\infty} \frac{m^2 n}{3^m (m 3^n + n 3^m)}$`

Differential Equation

$$u'' + p(x)u' + q(x)u = f(x), \quad x > a$$

`$u'' + p(x)u' + q(x)u=f(x), \quad x>a$`

Complex numbers

$$|\bar{z}| = |z|, |(\bar{z})^n| = |z|^n, \arg(z^n) = n \arg(z)$$

`$|\bar{z}| = |z|, |(\bar{z})^n| = |z|^n, \arg(z^n) = n \arg(z)$`

Limits

$$\lim_{z \rightarrow z_0} f(z) = f(z_0)$$

`$\lim_{z \rightarrow z_0} f(z)=f(z_0)$`

Integral Equation

$$\phi_n(\kappa) = \frac{1}{4\pi^2 \kappa^2} \int_0^{\infty} \frac{\sin(\kappa R)}{\kappa R} \frac{\partial}{\partial R} \left[R^2 \frac{\partial D_n(R)}{\partial R} \right] dR$$

`$\phi_n(\kappa) = \frac{1}{4\pi^2 \kappa^2} \int_0^{\infty} \frac{\sin(\kappa R)}{\kappa R} \frac{\partial}{\partial R} \left[R^2 \frac{\partial D_n(R)}{\partial R} \right] dR$`

Example

$$\phi_n(\kappa) = 0.033 C_n^2 \kappa^{-11/3}, \quad \frac{1}{L_0} \ll \kappa \ll \frac{1}{l_0}$$

`$\phi_n(\kappa) = 0.033 C_n^2 \kappa^{-11/3}, \quad \frac{1}{L_0} \ll \kappa \ll \frac{1}{l_0}$`

Continuation and cases

$$f(x) = \begin{cases} 1 & -1 \leq x < 0 \\ \frac{1}{2} & x = 0 \\ 1 - x^2 & \text{otherwise} \end{cases}$$

```
<math>
  f(x) =
  \begin{cases}
    1 & -1 \leq x < 0 \\
    \frac{1}{2} & x = 0 \\
    1 - x^2 & \mbox{otherwise}
  \end{cases}
</math>
```

Prefixed subscript

$${}_pF_q(a_1, \dots, a_p; c_1, \dots, c_q; z) = \sum_{n=0}^{\infty} \frac{(a_1)_n \cdots (a_p)_n}{(c_1)_n \cdots (c_q)_n} \frac{z^n}{n!}$$

```
<math>{}_pF_q(a_1, \dots, a_p; c_1, \dots, c_q; z)
= \sum_{n=0}^{\infty}
\frac{(a_1)_n \cdots (a_p)_n}{(c_1)_n \cdots (c_q)_n}
\frac{z^n}{n!}</math>
```

Fraction and small fraction

```
<math>\frac{a}{b} \quad \tfrac{a}{b}</math>
```

Bug reports

Discussions, bug reports and feature requests should go to the [Wikitech-l mailing list](#). These can also be filed on [Mediazilla](#) under *MediaWiki extensions*.

Future

In the future, once the [MathJax](#) option which [was added](#) to the [Math extension](#) is stable enough, it may be enabled on Wikimedia wikis (per [bug 31406](#)) as a better alternative for the PNG rendering of TeX formulas. MathJax is a JavaScript library for inline rendering of mathematical formulae, and can be used to translate LaTeX into [MathML](#) for direct interpretation by the browser.

See also

- [Comparison between ParserFunctions syntax and TeX syntax](#)
- [Typesetting of mathematical formulas](#)
- [Score](#) — extension for music markup
- [Table of mathematical symbols](#)
- [mw:Extension:BlahTeX](#), or [blahTeX](#): a LaTeX to MathML converter for Wikipedia
- [General help](#) for editing a Wiki page
- [Mimetex alternative](#) for another way to display mathematics using Mimetex.cgi

Notes

External links

- A LaTeX tutorial (<http://www.maths.tcd.ie/~dwilkins/LaTeXPrimer/>).
- A paper introducing TeX (<http://www.ctan.org/tex-archive/info/gentle/gentle.pdf>)—see page 39 onwards for a good introduction to the maths side of things.
- A paper introducing LaTeX (<http://www.ctan.org/tex-archive/info/short/english/short.pdf>)—skip to page 49 for the math section. See page 63 for a complete reference list of symbols included in LaTeX and AMS-LaTeX.
- The Comprehensive LaTeX Symbol List (<http://tug.ctan.org/tex-archive/info/symbols/comprehensive/symbols-letter.pdf>).
- [AMS-LaTeX guide](http://www.ams.org/tex/amslatex.html) (<http://www.ams.org/tex/amslatex.html>).
- A set of public domain fixed-size math symbol bitmaps (<http://us.metamath.org/symbols/symbols.html>).
- [MathML](#): A product of the [W3C Math working group](#) (<http://www.w3.org/Math/>), is a low-level specification for describing mathematics as a basis for machine to machine communication.

Links to other help pages

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Help:Sorting

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Tables can be made [sortable](#) via [client-side JavaScript](#) with `class="sortable"` (in combination with the usual formatting: `class="wikitable sortable"`). This works in MediaWiki 1.9 and above, which is installed in all Wikimedia projects.

A sortable table is identified by the arrows in each of its header cells. Clicking them will cause the table rows to sort based on the selected column, in ascending order first, and subsequently toggling between ascending and descending order. Links and other wiki-markup are not possible in headers.

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JavaScript

The JavaScript code `jquery.tablesorter.js` (source) (<https://phabricator.wikimedia.org/diffusion/MW/browse/master/resources/src/jquery/jquery.tablesorter.js>) of the tablesorter is loaded by the ResourceLoader. Some sites may have a page `MediaWiki:Common.js` which adds and overrides some code. Browsers need to support JavaScript and it needs to be enabled for sorting to work.

Sort modes

The way items are sorted depends on the data type of the first rows. To determine the data type, the first 5 non-blank rows below the header are tested after loading the page and the most appropriate format is chosen. Mismatches are possible. The sort order of a column can be forced. See the relevant section farther down.

Tags such as *span* or *sup* are ignored when determining data type, but reference numbers and additional visible comments are not ignored today.

Dates

Various date formats are supported, including those with localized month names. On the German Wikipedia, "16. März 2010" is correctly sorted as 2010-03-16

Most other numerical formats are supported as well, including those with different separators (such as . , ' or /); On English Wikipedias dates are treated as US-Dates (eg. month-day-year) per default.

Numbers

The script can recognize numbers with different decimal separators (. and ,) as well as e/E numbers. However, numbers will be sorted alphanumerically (with 9 sorted after 10) unless this default behaviour is overridden. (See below.)

Text

Text is lowercased and sorted as UTF-16 coded characters at client-side JavaScript with operator < and > (details see in EMCAScript (<https://tc39.github.io/ecma262/#sec-abstract-relational-comparison>) draft) Any accented/special characters follow after the basic latin alphabet. This can be changed site wide by posting code like the following inside the MediaWiki:Common.js:

```
mw.config.set('tableSorterCollation', {'ä':'a', 'ß':'ss', 'þ':'th', 'aa':'å'});
```

This character replace work after text transform to lowercase letters. Afterwards, all 'Ä' and 'ä' will be sorted as if they were an 'a' etc. Partial list showing the default order: !"#\$%&'()*+,-./09:;<=>?@[\\]^_`az{|}~é—

Forcing the sort mode for a column

The sort mode can be manually specified by putting `data-sort-type="..."` inside the header of the respective row. This functionality is based on tablesorter.com (<http://tablesorter.com>). The following (case-insensitive) values are valid for data-sort-type:

- text
- number
- IPAddress
- currency
- url
- isoDate
- usLongDate
- date
- time

Example:

```
{|class="wikitable sortable"
!data-sort-type="date" |Date!!Name!!Height!!data-sort-type="number" |Salary
|-
|01.10.1977||Smith||1.85||1,000.000
|-
|11.6.1972||Ray||1.89||900.000
|-
|1.9.1992||Bianchi||1.72||2,000.50
|}
```

Date	Name	Height	Salary
01.10.1977	Smith	1.85	1,000.000
11.6.1972	Ray	1.89	900.000
1.9.1992	Bianchi	1.72	2,000.50

Specifying a sort key

Sometimes the value of a cell is not correctly parsed or one wants to sort the row in a special way. (e.g. a cell containing 'John Smith' should actually be sorted as 'Smith' and not as 'John') This can be easily achieved by setting the `data-sort-value` attribute.

Wiki markup:

```
{|class="wikitable sortable"
!Name and Surname!!Height
|-
!data-sort-value="Smith, John" |John Smith||1.85
|-
!data-sort-value="Ray, Ian" |Ian Ray||1.89
|-
!data-sort-value="Bianchi, Zachary" |Zachary Bianchi||1.72
|}
```

This gives:

Name and Surname	Height
John Smith	1.85
Ian Ray	1.89
Zachary Bianchi	1.72

Note, however, that this makes use of a new feature in HTML5, which is enabled by default in MediaWiki (including WMF wikis since September 2012 cfr. [bugzilla:27478](#)). The old version was to set hidden sortkey with `w:Template:Sort`. See also [mediawiki.org](#).

Controlling sorting and display

If some Text undesired for sorting but needed for display, force the sort mode with `data-sort-type="..."` and write text *after* values (e.g. "200 approx", or reference tags "100^[1]"). Empty cell is treated as "-Infinity" when sorting numerically.

In the case of a cell containing a range of dates or numbers (e.g. from 2 to 5), specify a `data-sort-value="..."`.

Examples

The first column demonstrates how plain numbers are detected and sorted as numbers. The second column shows that with `data-sort-type="number"` in table header more content detected as numbers. The fourth column shows that with `data-sort-value="..."` a numeric sortvalue is defined, independent of the cell content.

numbers	data-sort-type="number"		data-sort-type="number"
-8e3	-8 e3		-8 e3
-3e-3	-3 e-3		-3 e-3
2.000	2-5 km²	data-sort-value="3.5"	2-5 km²
3.99	3.99 km²		3.99 km²
4	4 km²		4 km²
90 %	90 Percent	data-sort-value="90"	about 90 Percent
1E2	100 ^[1]		100 ^[1]
1,000,000.0	1 000 000.0	data-sort-value="1e6"	one Million

The thousand separator(,) and digits separator(.) depends on language specific configuration of the Mediawiki software. Currency symbols before or after numbers or the %-symbol will be sorted numerical.

currencies	currencies	currencies	currencies	percent	numbers
\$ 9	9 €	£ 9	¥ 9	9 %	-7e270
\$ 80	80 €	£ 80	¥ 80	80 %	-1.4285714285714E-13
\$ 70	70 €	£ 70	¥ 70	70 %	999e9
\$ 600	600 €	£ 600	¥ 600	600 %	7e270

Secondary sortkey

It is possible to sort by column A (primary sortkey), while for equal values in column A, sort by column B (secondary sortkey): first sort by A by clicking the sort button of column A once or twice, then, while holding the shift-key, click the sort button of column B once or twice.

Example:

First click on column Text and then, while holding the shift-key, on Numbers, you'll see that the ordering is on Text (1), Numbers (2).

Numbers	Text	Dates	Currency	More text
4	a	01.Jan.2005	4.20	row 1
5	a	05/12/2006	7.15	row 2
1	b	02-02-2004	5.00	row 3
1	a	02-02-2004	5.00	row 4
2	x	13-apr-2005		row 5
2	a	13-apr-2005		row 6
3	a	17.aug.2006	6.50	row 7
3	z	25.aug.2006	2.30	row 8
3	z	28.aug.2006	5.50	row 9
3	z	31.aug.2006	3.77	row 10
3	z	01.sep.2006	1.50	row 11
Bottom				

Additional features

Excluding the last row from sorting

Sometimes it is helpful to exclude the last row of a table from the sorting process. This can be achieved by declaring the last row as a footer, or by setting `class="sortbottom"` on the last row.

Wiki markup:

```
{|class="wikitable sortable"
!Name!!Surname!!Height
|-
|John||Smith||1.85
|-
|Ron||Ray||1.89
|-
|Mario||Bianchi||1.72
|-
|! !!Average: ||1.82
|}
```

What it looks like in your browser:

Name	Surname	Height
John	Smith	1.85
Ron	Ray	1.89
Mario	Bianchi	1.72
	Average:	1.82

Excluding the first row from sorting

The same can be applied for first rows as well, by declaring them as header using the same exclamation mark notation.

Name	Surname	Height
	Average:	1.82
John	Smith	1.85
Ron	Ray	1.89
Mario	Bianchi	1.72
	Average:	1.82

Making a column unsortable

If you want a specific column not to be sortable, specify `class="unsortable"` in the attributes of its header cell.

Wiki markup:

```
{|class="wikitable sortable"
!Numbers!!Alphabet!!Dates!!Currency!!class="unsortable" |Unsortable
|-
|1||z||02-02-2004||5.00||This
|-
|2||y||13-apr-2005|||Column
|-
|3||x||17.aug.2006||6.50||Is
|-
|4||w||01.Jan.2005||4.20||Unsortable
|-
|5||v||05/12/2006||7.15||See?
|-
|!Total: 15!!!!!!Total: 29.55!!
|}
```

What it looks like in your browser:

Numbers	Alphabet	Dates	Currency	Unsortable
1	Z	02-02-2004	5.00	This
2	y	13-apr-2005		Column
3	X	17.aug.2006	6.50	Is
4	w	01.Jan.2005	4.20	Unsortable
5	V	05/12/2006	7.15	See?
Total: 15			Total: 29.55	Original example (http://www.joostdevalk.nl/code/sortable-table/)

Keeping some rows together

If you want that a row will always be below the row just above it and will follow it around, no matter how the sorting is applied, specify `class="expand-child"` in the attribute of this row.

Wiki markup:

```
{| class="wikitable sortable"
! style="width:9em" | Country !!data-sort-type="number" | Area
-
| France
| 674 843 km²
- class="expand-child" style="font-size:85%; line-height:1.2; color:gray"
| colspan="2" | In Paris is the Eiffel Tower.
-
| U.K.
| 242 495 km²
- class="expand-child" style="font-size:85%; line-height:1.2; color:gray"
| colspan="2" | In the U.K. you cannot pay with euros.
- class="expand-child" style="font-size:85%; line-height:1.2; color:gray"
| colspan="2" | And you drive on the left side of the road.
-
| Germany
| 357 168 km²
- class="expand-child" style="font-size:85%; line-height:1.2; color:gray"
| colspan="2" | Germany includes the former DDR.
}
```

What it looks like in your browser:

Country	Area
France	674 843 km²
In Paris is the Eiffel Tower.	
U.K.	242 495 km²
In the U.K. you cannot pay with euros.	
And you drive on the left side of the road.	
Germany	357 168 km²
Germany includes the former DDR.	

If you put in *data-sort-value* the same content as above row, keep this rows also together. The original mutual order of these rows is preserved. A better way for this is class `expand-child`, see above [#Keeping some rows together](#).

Example where *data-sort-value* is used is the case for the rows about the Netherlands:

```
{|class="wikitable sortable"
!Country/province!!Capital
-
|France||Paris
```

```

| - Netherlands | | Amsterdam
| -
| data-sort-value=Netherlands | South Holland | | data-sort-value=Amsterdam | The Hague
| -
| U.K. | | London
| }

```

Country/province	Capital
France	Paris
Netherlands	Amsterdam
South Holland	The Hague
U.K.	London

Special dates

For years BC we can use, for example, !9937-09-23 for -0062-09-23 (subtract the year number BC from 10000, or the absolute value of the astronomical year from 9999).

If a table column contains any or all incomplete dates, this will not cause sorting problems. If only a year and month are given, that incomplete date is positioned alphabetically before the first day of the month in question. Likewise, if only a year is given, the date is positioned before the first month or day given for that year.

Use of #time

Using parser function #time we can put `&{{#expr:3e11+{{#time:U|..}}}}` in front of the displayed date. This works in the range 1 Jan 111, 00:00:00 through 31 Dec 9999, 23:59:59 for the proleptic Gregorian calendar. The added value makes all values positive and the same length (if scientific format would show up an additional step is needed to prevent this). The "&" forces string sort mode.

Dates and times can be entered in any php date/time format (<http://www.php.net/manual/en/datetime.formats.php>). Note that when we have just a year, a month (typically Jan) must be added in the hidden part.

Example using Help:Sorting/date:

input date	text	date and time as interpreted, with hidden sortkey	input with visible sortkey	input with hidden sortkey	Unix time
010203		20 Sep 2018 01:02:03	&301537405323 010203	010203	1537405323
1/2		02 Jan 2018 00:00:00	&301514851200 1/2	1/2	1514851200
1/2/3		02 Jan 2003 00:00:00	&301041465600 1/2/3	1/2/3	1041465600
1-2-2003		01 Feb 2003 00:00:00	&301044057600 1-2-2003	1-2-2003	1044057600
1-2-3		03 Feb 2001 00:00:00	&300981158400 1-2-3	1-2-3	981158400
2007		01 Jan 2007 00:00:00	&301167609600 2007	2007	1167609600
1 Jan 111, 00:00:00		01 Jan 0111 00:00:00	&241335609600 1 Jan 111, 00:00:00	1 Jan 111, 00:00:00	-58664390400
31 Dec 9999, 23:59:59		31 Dec 9999 23:59:59	&553402300799 31 Dec 9999, 23:59:59	31 Dec 9999, 23:59:59	253402300799

Sep 1970		01 Sep 1970 00:00:00	&300020995200 Sep 1970	Sep 1970	20995200
1970		01 Jan 1970 00:00:00	&3000000000000 1970	1970	0
Jun 2007	or later	01 Jun 2007 00:00:00 or later	&301180656000 Jun 2007 or later	Jun 2007 or later	1180656000 or later
Jun 2007	perhaps earlier	01 Jun 2007 00:00:00 perhaps earlier	&301180656000 Jun 2007 perhaps earlier	Jun 2007 perhaps earlier	1180656000 perhaps earlier
2007-6		01 Jun 2007 00:00:00	&301180656000 2007-6	2007-6	1180656000
Jun 2007		01 Jun 2007 00:00:00	&301180656000 Jun 2007	Jun 2007	1180656000
4 Jun 2007		04 Jun 2007 00:00:00	&301180915200 4 Jun 2007	4 Jun 2007	1180915200
3 Jul 2007		03 Jul 2007 00:00:00	&301183420800 3 Jul 2007	3 Jul 2007	1183420800
12 Aug 2006		12 Aug 2006 00:00:00	&301155340800 12 Aug 2006	12 Aug 2006	1155340800
1 Mar 2006 -1day		28 Feb 2006 00:00:00	&301141084800 1 Mar 2006 -1day	1 Mar 2006 -1day	1141084800
1 Mar 2008 -1day		29 Feb 2008 00:00:00	&301204243200 1 Mar 2008 -1day	1 Mar 2008 -1day	1204243200
1 Mar 2010 -1day		28 Feb 2010 00:00:00	&301267315200 1 Mar 2010 -1day	1 Mar 2010 -1day	1267315200
1 Mar 1900 -1day		28 Feb 1900 00:00:00	&297796022400 1 Mar 1900 -1day	1 Mar 1900 -1day	-2203977600
1 Mar 1600 -1day		29 Feb 1600 00:00:00	&288329001600 1 Mar 1600 -1day	1 Mar 1600 -1day	-11670998400
Jun 1607		01 Jun 1607 00:00:00	&288557875200 Jun 1607	Jun 1607	-11442124800
20180920173127		20 Sep 2018 17:31:27	&301537464687 20180920173127	20180920173127	1537464687
yesterday		19 Sep 2018 00:00:00	&301537315200 yesterday	yesterday	1537315200
today		20 Sep 2018 00:00:00	&301537401600 today	today	1537401600
tomorrow		21 Sep 2018 00:00:00	&301537488000 tomorrow	tomorrow	1537488000
1week		27 Sep 2018 17:31:28	&301538069488 1week	1week	1538069488
-1week		13 Sep 2018 17:31:28	&301536859888 -1week	-1week	1536859888
1day		21 Sep 2018 17:31:28	&301537551088 1day	1day	1537551088
-1day		19 Sep 2018 17:31:28	&301537378288 -1day	-1day	1537378288
1month		20 Oct 2018 17:31:28	&301540056688 1month	1month	1540056688
-1month		20 Aug 2018 17:31:28	&301534786288 -1month	-1month	1534786288
1year		20 Sep 2019 17:31:28	&301569000688 1year	1year	1569000688

-1year		20 Sep 2017 17:31:28	&301505928688 -1year	-1year	1505928688
1000year		20 Sep 3018 17:31:28	&333094373488 1000year	1000year	33094373488
10000month		20 Jan 2852 17:31:28	&327834946288 10000month	10000month	27834946288
1000000day		17 Aug 4756 17:31:28	&387937464688 1000000day	1000000day	87937464688
10000000hour		08 Jul 3159 09:31:28	&337537464688 10000000hour	10000000hour	37537464688
1000000000minute		18 Jan 3920 04:11:28	&361537464688 1000000000minute	1000000000minute	61537464688
100000000000second		06 Aug 5187 03:18:08	&401537464688 100000000000second	100000000000second	101537464688
7980year		20 Sep 9998 17:31:28	&553361928688 7980year	7980year	253361928688
-1890year		20 Sep 0128 17:31:28	&241894853488 -1890year	-1890year	-58105146512
Mon		24 Sep 2018 00:00:00	&301537747200 Mon	Mon	1537747200
Tue		25 Sep 2018 00:00:00	&301537833600 Tue	Tue	1537833600
Wed		26 Sep 2018 00:00:00	&301537920000 Wed	Wed	1537920000
Thu		20 Sep 2018 00:00:00	&301537401600 Thu	Thu	1537401600
Fri		21 Sep 2018 00:00:00	&301537488000 Fri	Fri	1537488000
Sat		22 Sep 2018 00:00:00	&301537574400 Sat	Sat	1537574400
Sun		23 Sep 2018 00:00:00	&301537660800 Sun	Sun	1537660800
		Error: Invalid time.	&Expression error: Unexpected < operator.		Error: Invalid time.
unknown		Error: Invalid time.	&Expression error: Unexpected < operator. unknown	unknown	Error: Invalid time.

To use dates before the year 111, add a multiple of 400, e.g. 6000, to all years, this effectively shifts the range to 1 Jan -5889, 00:00:00 through 31 Dec 3999, 23:59:59, without changing the calendar.

See also:

- [w:Template:Dts](#) - sorting a table by a date column
- [Template:Sd](#) - shows weekday in a separate column before date, and link all dates

Cell spanning multiple rows/cells

A cell which spans more than one row or column is treated as if it were multiple cells with the same value.

rowspan

Date	Name	Height
01.10.1977	Smith	1.85
11.06.1972	Adams	
01.09.1992	Bianchi	1.72

colspan

A	B		C
A	2	1	
B	1		3
C	2		

As of MediaWiki Version 1.26 wmf23 (Sept. 2015), sorting of colspanned cells works correctly. Also, *missing* cells at the end of a row will change after first sort into cells with empty content.

Colspanned cells

The auto-detection of sort mode is done for colspanned cells for each column separately. Defining the sort mode by putting data-sort-type inside the header will specify this sort mode for all colspanned columns.

To use separate sortkeys for each column in a colspanned cell, use the CSS hack described here: To allow sorting, the formal number of cells in each row should be equal (If not, all columns become sortable. This should apply at least for the number of cells up to and including the last sortable column.) However, with a CSS hack the number of cells *shown* in a row can differ from the formal number of cells. For example, two formal cells can be shown as one by specifying a width for the first column, shifting the contents of the second cell to the left, increasing its width by the same amount, and hiding the cell border that would normally be visible. Hidden sortkeys can be used to control the sort order of particular rows with respect to each column.

Example:

Country	Capital
France	Paris
Sorting with respect to the first column this row sorts like Z, with respect to the second column like M	
U.K.	London

Static column

A static column, e.g. with row numbers, can be obtained with two side-by-side tables with for each row the same height set in both tables:

Number	Country	Capital
1	The Netherlands	Amsterdam (although The Hague is the seat of government)
2	France	Paris

The style can be adjusted to make it appear as a single table. If for some row the height of that row is too small for the text in a cell on one of the sides, the browser increases it, and there is no longer a match.

Default order

It is not possible to make a table appear sorted by a certain column without the user clicking on it. By default, the rows of a table always appear in the same order as in the wikitext. If you want a table to appear sorted by a certain column, you must sort the wikitext itself in that order; see the next section for one way to do this.

Sorting the wikitext of a table

Sorting the wikitext itself, thus creating a new default sort order, can be done semi-automatically as follows. Take the wikitext of the table without top and bottom lines. Use "find and replace" to replace the cell separators with special code not containing "|". If there are pipes in the table cells, replace all pipes by some code, and replace that code with a newline in front of it (originating from the code for the start of a new row) back. Apply [mw:Module:Sort](#) (see [mw:Module talk:Sort](#)) at [mw:Special:ExpandTemplates](#) by putting: `{{#invoke:Sort|f|{{!}}}-`

`{{!}}` (with the newline) before, and `}}` after the wikitext, to sort the items between the pipes, with the desired separator in the result. Discard the items at the start containing "-" and a newline. Restore the cell separators and the pipes in the cells by replacing the temporary codes for them. Readd the top and bottom lines.

This method sorts by the wikitext of the rows, so in principal by the first column (and the second as secondary key), although wikitext codes in the cells of the first column before the content can affect the order.

See [Help:Sorting#Maintaining tables sorted by rank](#) for sorting tables by a different column.

Using JavaScript to trigger client-side table sorting

An addition to [MediaWiki:Common.js](#) can be used to "re-sort" a table automatically on the client side when the page loads (as if the user had clicked the header.) The example below sorts all the tables on a set of pages by the first column (see the [Tablesorter](#) documentation for syntax.)

Note : This appears to break sorting by clicking on headers. It sorts ascending on the clicked on header, but won't sort the other way when clicked on again

```
function isSortedTablePage() {
    return ( wgPageName == "Page_To_Sort"  || wgPageName == "Other_Page_To_Sort" );
}

jQuery( document ).ready( function( $ ) {
    // wrapped in "mw.loader.using" so this doesn't execute until Tablesorter has loaded
    mw.loader.using( 'jquery.tablesorter', function() {
        if( isSortedTablePage() ) $('table.sortable').tablesorter( {sortList: [ { 0: 'asc'} ]} )
        // or look for tables with an ID attribute of "sortMe" on any page
        // $( '#sortMe' ).tablesorter( {sortList: [ { 0: 'asc'} ]} )
    } );
} );
```

Basic alphabetic sorting order

demo
!
"
#
\$
%
&
'
(
)
*
+
,

-
.
/
0
9
:
;
<
=
>
?
@
[
\
]
^
_
`
A
Z
a
z
A1
Z1
a1
z1
{
}
~
É
é
É1
é1
—

The two-character entries such as A1 demonstrate that A and a are at the same position.

This is not a fully alphabetic sort order: letter case is first folded to lowercase using a basic 1-to-1 conversion table (limited to the Basic Multilingual Plane of Unicode, and whose coverage and completeness still depends on browser versions and on their current implementation of the versioned Unicode Character Database), but letters with diacritics (and all other digits, symbols or special

whitespaces or format control characters) will still sort according to the binary encoding of the casefolded letter, using the binary order of the UTF-16 code units (exposed and seen in Javascript through the parsed HTML DOM), but not the binary order of UTF-8 code units in the HTML page, and not of codepoints as one could also expect for encoded characters in supplementary planes).

In addition, no normalization of the Unicode text is being performed (so canonically equivalent strings, that should compare equal or with only very minor binary difference, may sometimes compare very far away, with completely different strings interleaved between them). For this reason, MediaWiki pages should always be encoded with their text in the Normalized Form C (preComposed), as recommended in the HTML standards.

As of today, an UCA-based sort is still not implemented in the client-side Javascript code, but some wikis are implementing a limited form of multilevel collation using custom basic replacement rules tuned for specific languages.

Server issue

It has been observed that the MediaWiki code on the server replaces a regular space before "!" by a non-breaking space ` `, affecting the sorting order. To avoid this, this blank space can be coded as ` `, or the exclamation mark may be surrounded by `<nowiki>` and `</nowiki>` tags. This is to comply with French typographic rules, where exclamation marks (and a few other punctuations) must be preceded (or sometimes followed) by a space (preferably narrow) which must still be unbreakable when it is effectively needed and present, the substitution being performed as an convenient editing facility of the Wiki code for cases that are very frequent within many texts.

Persistent sort states using cookies

Adding this snippet to your `MediaWiki:Common.js` page will make the sortable tables remember their columns sort states in a cookie so they look the same next time the page is visited. Each sortable table must have a unique **id** attribute for its state to be stored in the cookie.

```
addOnloadHook( function() {
    jQuery('.sortable').each( function() {
        var id = jQuery(this).attr('id');
        document.shCookie = getCookie('sorthead-' + id);
        document.sortheadId = 0;
        jQuery('#' + id + ' a.sorthead').each( function() {
            var id = jQuery(this).parent().parent().parent().parent().attr('id');
            var sh = document.sortheadId++;
            if( sh + 100 == document.shCookie ) { ts_resortTable(this); ts_resortTable(this); }
            if( sh == document.shCookie ) { ts_resortTable(this); sh += 100; }
            jQuery(this).bind('click', {id: id, sh: sh}, function(e) {
                setCookie('sorthead-' + e.data.id, e.data.sh, 1);
                e.data.sh += e.data.sh < 100 ? 100 : -100;
            });
        });
    });
});

function setCookie(c_name,value,exdays) {
    var exdate=new Date();
    exdate.setDate(exdate.getDate() + exdays);
    var c_value=escape(value) + ((exdays==null) ? "" : "; expires="+exdate.toUTCString());
    document.cookie=c_name + "=" + c_value;
}

function getCookie(c_name) {
    var i,x,y,ARRcookies=document.cookie.split(";");
    for (i=0;i<ARRcookies.length;i++) {
        x=ARRcookies[i].substr(0,ARRcookies[i].indexOf("="));
        y=ARRcookies[i].substr(ARRcookies[i].indexOf("=")+1);
        x=x.replace(/^\s+|\s+$/g,"");
        if (x==c_name) return unescape(y);
    }
}
```

See also

- [Help:Table](#)

- [Sortable collapsible table](#)
- [w:Category:Sorting templates](#)
- [jquery.tablesorter.js \(https://phabricator.wikimedia.org/diffusion/MW/browse/master/resources/src/jquery/jquery.tablesorter.js\)](https://phabricator.wikimedia.org/diffusion/MW/browse/master/resources/src/jquery/jquery.tablesorter.js) - sorting code
- [phab:tag/mediawiki-jquery-tablesorter/](#) [Tablesorter Workboard](#) for bugs and improvements
- <http://www.kryogenix.org/code/browser/sortable/> - explanation of the original version of the code by Stuart Langridge; an improvement in the MediaWiki version is that tables no longer need to have an id.
- [mw:Help:Sorting](#)
- [mw:Extension:Sort2](#) generates sorted lists based on existing token lists.

Examples elsewhere:

- [w:Ranked list of Dutch provinces](#)
- [w>List of countries by GDP estimates for 2006 \(nominal\)](#)
- [w>List of countries by GDP \(PPP\), 2006](#)
- [w>List of longest reigning current monarchs](#) - date columns are sortable for people with "no preference" for date formatting, and for people with preference [[YYYY-MM-DD]].
- [Pokémon table \(http://en.wikipedia.org/w/index.php?title=User:Smurrayinchester/Template&oldid=97802084\)](http://en.wikipedia.org/w/index.php?title=User:Smurrayinchester/Template&oldid=97802084) - prefixes numbers with "#" to have them before "-".
- [Nuclear power by country \(Featured List\)](#)
- [w:Desert Island Discs: castaways' choices](#)
- [zh:秘鲁行政区划](#) (Subdivisions of Peru) for sorting of Chinese (CJK)
- [w:Standard electrode potential \(data page\)](#)

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Help:Text color

Set **text** color by using ` TEXT `

Set **background** color by using ` TEXT `

Set **both** by using ` TEXT `

Standard color names

The HTML 4.01 specification defines sixteen named colors, as follows:

Color	Hexadecimal	Color	Hexadecimal
black	#000000	silver	#c0c0c0
gray	#808080	white	#ffffff
maroon	#800000	red	#ff0000
purple	#800080	fuchsia	#ff00ff
green	#008000	lime	#00ff00
olive	#808000	yellow	#ffff00
navy	#000080	blue	#0000ff
teal	#008080	aqua	#00ffff

See also

- [Big color table](#)
- [w:en:web colors](#)
- [w:Template:Font color](#)
- [w:Template:Color contrast ratio](#)
- [Template:Font size demo](#)

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Help:Images and other uploaded files

Languages:	English · dansk (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/da&uselang=da) · Deutsch (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/de&uselang=de) · français (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/ja&uselang=ja) · polski (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/pl&uselang=pl) · português do Brasil (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/pt-br&uselang=pt-br) · русский (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/ru&uselang=ru) · shqip (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/sq&uselang=sq) · Tiếng Việt (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/vi&uselang=vi) · 中文（台灣） (https://meta.wikimedia.org/w/index.php?title=Help:Images_and_other_uploaded_files/zh-tw&uselang=zh-tw)
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You can upload files through MediaWiki and embed them in textual pages. In other words, to embed an image, the image file has to be uploaded. Also other files can be uploaded, see below. In earlier versions of MediaWiki, the term "image" was used for any uploaded file; the current version uses the term (and namespace) "file:" or "media:" instead.

When a file is uploaded, a file page (also called "image description page") will be created, with a page name consisting of the file name (including extension), prefixed with "File:" (or in general the value of variable {{ns:File}} (MediaWiki 1.14 or following) or {{ns:Image}} (MediaWiki 1.13 or earlier).

Media files like images can be embedded into text using the regular internal link syntax. Images can also be resized to fit better within the page, see below.

A group of wikis may have designated one "preferred wiki" to upload files to, with sharing of those files enabled. Among Wikimedia wikis, Wikimedia Commons works for this. If images are uploaded to Wikimedia Commons, they can be used in all Wikimedia wikis. Images uploaded on another wiki (e.g. Wikipedia) can only be used in pages of that wiki. Thus this should be done only if there is a special reason for it, such as locally replacing an image from Commons with a local version without changing the links.

Images can also be produced by the system from specifications in wikitext:

- Formulas (e.g. $n^2 = \sum_{k=1}^n (2k - 1)$ produced by $n^2 = \sum_{k=1}^n (2k-1)$.)
- Timelines, navigational maps, etc. (e.g. Soviet Leaders (http://meta.wikimedia.org/upload/timeline/d12a83ed39e720e3d4eb41241afdef3d.png))
- Thumbnails of uploaded images (e.g. A steam locomotive, at (http://upload.wikimedia.org/wikipedia/commons/1/13/LBNGR_MR740_05-09-11.jpeg)File:LBNGR_MR740_05-09-11.jpeg) (saves bandwidth and rendering time compared with letting the browser do the reduction)

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Supported file types

By default, MediaWiki only allows you to upload certain types of files (extensions *gif*, *jpg*, *jpeg*, *ogg* and *png*). This is managed by the orders in includes/DefaultSettings.php [1] (http://svn.wikimedia.org/viewvc/mediawiki/trunk/phase3/includes/DefaultSettings.php?view=markup):

*/**
 * This is the list of preferred extensions for uploading files. Uploading files*

```

*/ with extensions not in this list will trigger a warning.
*/
$wgFileExtensions = array( 'png', 'gif', 'jpg', 'jpeg', 'doc', 'docx', 'xls', 'xlsx', 'pdf' );

/** Files with these extensions will never be allowed as uploads. */
$wgFileBlacklist = array(
    # HTML may contain cookie-stealing JavaScript and web bugs
    'html', 'htm', 'js', 'jsb', 'mhtml', 'mht',
    # PHP scripts may execute arbitrary code on the server
    'php', 'phtml', 'php3', 'php4', 'php5', 'phps',
    # Other types that may be interpreted by some servers
    'shtml', 'jhtml', 'pl', 'py', 'cgi',
    # May contain harmful executables for Windows victims
    'exe', 'scr', 'dll', 'msi', 'vbs', 'bat', 'com', 'pif', 'cmd', 'vxd', 'cpl' );

/** Files with these mime types will never be allowed as uploads
 * if $wgVerifyMimeType is enabled.
 */
$wgMimeTypeBlacklist= array(
    # HTML may contain cookie-stealing JavaScript and web bugs
    'text/html', 'text/javascript', 'text/x-javascript', 'application/x-shellscrip',
    # PHP scripts may execute arbitrary code on the server
    'application/x-php', 'text/x-php',
    # Other types that may be interpreted by some servers
    'text/x-python', 'text/x-perl', 'text/x-bash', 'text/x-sh', 'text/x-csh',
    # Windows metafile, client-side vulnerability on some systems
    'application/x-msmetafile'
);

/** This is a flag to determine whether or not to check file extensions on upload. */
$wgCheckFileExtensions = false;

/**
 * If this is turned off, users may override the warning for files not covered
 * by $wgFileExtensions.
 */
$wgStrictFileExtensions = true;

/** Warn if uploaded files are larger than this (in bytes), or false to disable*/
$wgUploadSizeWarning = false;

```

Take in to account that there is a blacklist of file extensions and mime types. For reasons of security, executable programs are not allowed by default. Also some file types that could be uploaded in the past can no longer be uploaded, but the files already uploaded can still be used.

SVG images uploaded earlier can be linked to, but not be directly embedded, e.g. [Media:Wikipedia3fnlc1.svg](#) ([image description page](#)) - see also [m:SVG image support](#).

For videos see [m:Video policy](#).

Uploading

To upload a file, in general, go to Commons, [log in there](#), and upload the file using the upload link [commons:Special:Upload](#). In the menu on the left under "toolbox" you will have a link named "Upload file". If you want to upload the file to one of the other wikis, you can follow the same steps as at Commons, but be sure to refer to the local guidelines.

Before uploading please ensure that you have rights to upload and redistribute the file(s) in question, and that they comply with any further [licensing requirements](#) of the Wikimedia Commons project and other [criteria for inclusion](#). Please note that as with wiki pages, others may edit or delete your uploads if they think it serves the project, and you may be blocked from uploading if you abuse the system.

The preferred formats are JPEG for photographic images with millions of colors and shades; PNG for fixed-color pixelated images such as icons; SVG for structured drawings, logos; and OGG for audio.

Once you get to the upload page, on most browsers, you will see a "Browse..." button, which will bring up your operating system's standard file open dialog. Choosing a file will fill the name of that file into the text field next to the button. Upload the file under a suitable name, because renaming the file after uploading is not possible. The file name doesn't need to be the same as the file name stored on your computer. Please name your files descriptively to avoid confusion and make sure that the file name has the proper [extension](#). Consider using the first 20 characters of the image name for as much compact information as possible, since only these are usually shown on category pages. The file names are case-sensitive (this applies even for the file name extension), except, in most wikis, for the first character.

When choosing a name for a file on Commons, do not use a name that is already in use on any project on which the file may be used. This is because a file on Commons with the same name as the one on the local is not accessible for embedding in the local project. However, if the new file on Commons should replace the local ones, and the local ones will therefore be deleted, you may use the same name.

You must also check the box affirming that you are not violating any copyrights by uploading the file. Press the "Upload file" button to finish the upload. This may take some time if you have a slow internet connection.

When a file is uploaded with the same name as an existing one, the old one is replaced, and the system will warn against overwriting. When a media file is replaced by uploading a new one with the same name (e.g. an image in an article is replaced), this does not show up in the page history of the article, nor in the [Related changes](#) of the article, nor in the revision history of the image description page (unless the description section is also changed). However, it is recorded in the Image History section of the image description page, and it changes [m:Upload log](#). Therefore, to watch changes in images in an article, it is not sufficient to watch the article itself. Watching the image description pages will help you find the change in the file (from MediaWiki 1.13).

[Protection](#) of an image page is automatically also protection of the image itself: i.e. a new image under the name of the existing image can only be uploaded by a sysop.

When replacing or deleting a file on Commons, all projects that use the file are affected. Therefore it is important that the image page on Commons is linked to the local image pages of that file on all projects that use it. On these, even if they have never been created explicitly and therefore have an empty editable part, the "file links" section shows the local pages that use the file.

See [commons:Commons:First steps](#) for more detail.

[Special:Imagelist](#) provides the same information as the [Upload log](#), but it uses the user's local time instead of the default time (set to [Coordinated Universal Time](#) for Wikimedia projects). In addition it gives the file sizes. Further it allows loading of portions and sorting by size in addition to sorting by date, and it has not only links to the image description pages, but also directly to the images.

Embedding internal files

To embed an internal file in a text, you just have to specify its file name with the internal link syntax ([[]]). Thus, [[image:tst.png]] gives .

Here, "internal" refers to both the same project and Commons. An image name is assumed to refer to the one in the same project if it exists there, otherwise to one on Commons. If neither exists a link to the upload page appears, with class="new" ("red link"). The link is rendered the same as one to the edit page of the non-existing image page, except that the former shows the canonical form of the pagename.

Only images proper can be automatically presented, sound is not automatically played.

An embedded internal image automatically links to the image page, which shows the full image, or, depending on preferences, a reduced version with a link to the full version. The page also provides info about the image.

Images on MediaWiki:Bad image list cannot be embedded; they appear as a regular link to the image page. Exceptions to allow a listed image on particular relevant articles can be added. See, for example, w:en:MediaWiki:Bad image list.

Options

The internal-link style markup for embedding a file can take various options separated with a pipe character ("|"). In brief, they are [[Image:{name}|{type}|{location}|{size}|{upright}|{border}|{caption}]].

Type

'thumb' or 'frame'. Causes image to be displayed with specific formatting (see below).

Location

'left', 'right', 'center' or 'none'. Determines placement of the image on the page.^[1] Defaults to 'right' if the type is 'thumb' or 'frame'. The combination thumb and none can be useful in a table, to allow a caption but reduce the space around the image. Text that follows the image with location left or right floats, in the case of center or none it does not (if necessary, reduce the browser window width to see this in the examples). An image without the specification thumb or frame, and without location specified (not even *none*) is displayed inline.

Size

{width}px or {width}x{height}px, reduces or enlarges an image without specified type, reduces an image if thumb is specified. Even if width and height are specified the image will keep its original aspect ratio: either the width or the height will be equal to the specified maximum, whichever allows the other to be no larger than the maximum.

Upright

for use only on images that are taller than they are wide. Adjusts a thumbnail's size to *factor* times the default thumbnail size, rounding the result to the nearest multiple of 10 pixels. For instance, "upright=1.5" makes the image larger, which is useful for maps or schematics that need to be larger to be readable. As a guide "upright=1" is the same width as a standard thumbnail, and "upright=0.75" is the same as using "upright" alone.

Border

adds a border around the image.

Link

To allow an image to link to an arbitrary title, URL or just nowhere.

Alt

See w:wp:Alternative text for images.

Caption

Any element which cannot be identified as one of the above is assumed to be caption text. If there is more than one the last one is effective, even if it's an empty string. Specifying a caption parameter is strongly recommended for the sake of accessibility. Images without type do not have a caption, the caption parameter becomes a "title"-attribute, which is shown in the hoverbox. A real caption can contain links.

In the case of a non-existing image, a link to the upload page is provided. If *type* has been specified this is still applied, with the caption. *Location* is also applied. Remaining elements, even image size, are treated like caption: the last one of any of these is effective as label of the upload link.

Single pipes inside a pair of double rectangular brackets, such as in link and image syntax, are shielded by these brackets from being interpreted as table syntax. However, this does not apply to consecutive pipes, which might occur in the expanded wikitext for image syntax if an optional parameter is not applicable. Thus in the case of an optional parameter, make the pipe optional as well. A pipe in e.g. the then- or else part of a conditional parser function can be coded as {{!}}, due to Template:!. Alternatively, add an unconditional space in the image syntax: a pipe-space-pipe combination is not a double pipe, so not taken as table syntax, while a parameter position containing just a space is ignored in the interpretation of the image syntax.

In cases where text floats around the image, use <br clear="all" />, or on projects that have Template:Clr or Template:- {{clr}} or {{-}} to continue below the image(s).

An image can be in-line, a floating block, or like a paragraph (i.e., without text on the sides).

Inline


a[[Image:Tst.png|x]]]b → ab [2] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cx%5D%5Db&removecomments=true)


a[[Image:Tst.png|5px|x]]]b → ab [3] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7C5px%7Cx%5D%5Db&removecomments=true)

a[[Image:Tst.png|20px|x]]]b → ab [4] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7C20px%7Cx%5D%5Db&removecomments=true)

The default thumbnail width (also applicable to frameless) can be set in the preferences, so typically it is better *not* to specify "px". Either way, showing an enlargement of the stored image is not possible.

`a[[Image:Tst.png|frameless|x]]b` →  [b \[5\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7Cx%5D%5Db&removecomments=true>)

`a[[Image:Tst.png|frameless|5px|x]]b` →  [b \[6\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7C5px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7C5px%7Cx%5D%5Db&removecomments=true>)

`a[[Image:Tst.png|frameless|20px|x]]b` →  [b \[7\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7C20px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframeless%7C20px%7Cx%5D%5Db&removecomments=true>)


Floating, neither thumb nor frame

With the differences mentioned above, this applies to frameless too.


`a[[Image:Tst.png|left|x]]b` → a

 [b \[8\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7Cx%5D%5Db&removecomments=true>)


`a[[Image:Tst.png|left|5px|x]]b` → a

 [b \[9\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7C5px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7C5px%7Cx%5D%5Db&removecomments=true>)


`a[[Image:Tst.png|left|20px|x]]b` → a

 [b \[10\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7C20px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cleft%7C20px%7Cx%5D%5Db&removecomments=true>)


`a[[Image:Tst.png|right|x]]b` → a

[b \[11\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7Cx%5D%5Db&removecomments=true>) 

`a[[Image:Tst.png|right|5px|x]]b` → a

[b \[12\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7C5px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7C5px%7Cx%5D%5Db&removecomments=true>) 

`a[[Image:Tst.png|right|20px|x]]b` → a

[b \[13\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7C20px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cright%7C20px%7Cx%5D%5Db&removecomments=true>) 


Blank on the side(s), neither thumb nor frame

With the differences mentioned above, this applies to frameless too.


`a[[Image:Tst.png|center|x]]b` → a

 [b \[14\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7Cx%5D%5Db&removecomments=true>)

`a[[Image:Tst.png|center|5px|x]]b` → a

 [b \[15\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7C5px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7C5px%7Cx%5D%5Db&removecomments=true>)

`a[[Image:Tst.png|center|20px|x]]b` → a

 [b \[16\]](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7C20px%7Cx%5D%5Db&removecomments=true) (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Ccenter%7C20px%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | none | x]] b → a



b [17] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cnone%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | none | 5px | x]] b → a



b [18] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cnone%7C5px%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | none | 20px | x]] b → a



b [19] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cnone%7C20px%7Cx%5D%5Db&removecomments=true>)

Floating, thumb with caption

Both the image itself and an "enlarge" icon in the frame links to the image page.

a [[Image:Tst.png | thumb | x]] b → a

b [20] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | thumb | 5px | x]] b → a

b [21] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7C5px%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | thumb | left | x]] b → a

b [22] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cleft%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | thumb | left | 5px | x]] b → a

b [23] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cleft%7C5px%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | thumb | right | x]] b → a

b [24] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cright%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | thumb | right | 5px | x]] b → a

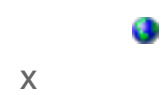
b [25] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cright%7C5px%7Cx%5D%5Db&removecomments=true>)

x



Blank on the side(s), thumb with caption

a [[Image:Tst.png | thumb | center | x]] b → a



x

b [26] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Ccenter%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | thumb | center | 5px | x]] b → a



x

b [27] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Ccenter%7C5px%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | thumb | none | x]] b → a



x

b [28] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cnone%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | thumb | none | 5px | x]] b → a



x

b [29] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7Cnone%7C5px%7Cx%5D%5Db&removecomments=true>)

Limitation of thumb

Like with frameless, showing an enlargement of the stored image is not possible, for example:

a [[Image:Tst.png | thumb | 20px | x]] b → a

b [30] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cthumb%7C20px%7Cx%5D%5Db&removecomments=true>)

x



Floating, frame with caption

a [[Image:Tst.png | frame | x]] b → a

b [31] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7Cx%5D%5Db&removecomments=true>)

x



a [[Image:Tst.png | frame | left | x]] b → a



x

b [32] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7Cleft%7Cx%5D%5Db&removecomments=true>)

a [[Image:Tst.png | frame | right | x]] b → a

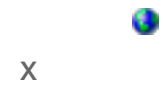
b [33] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7Cright%7Cx%5D%5Db&removecomments=true>)

x



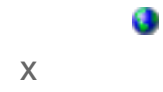
Blank on the side(s), frame with caption

```
a[ [ Image:Tst.png | frame | center | x ] ]b → a
```



b [34] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7Ccenter%7Cx%5D%5Db&removecomments=true>)

```
a[ [ Image:Tst.png | frame | none | x ] ]b → a
```



b [35] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7Cnone%7Cx%5D%5Db&removecomments=true>)

Limitation of frame

Display in other than the stored size is not possible, for example:

```
a[ [ Image:Tst.png | frame | 5px | x ] ]b → a
```

b [36] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7C5px%7Cx%5D%5Db&removecomments=true>)



```
a[ [ Image:Tst.png | frame | 20px | x ] ]b → a
```

b [37] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5BImage%3ATst.png%7Cframe%7C20px%7Cx%5D%5Db&removecomments=true>)



Multiple images with floating text

```
a[ [ image:tst.png | left | x ] ]b[ [ image:tst.png | left | x ] ]c → a
```



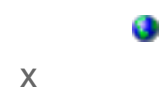
c [38] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5Bimage%3Atst.png%7Cleft%7Cx%5D%5Db%5B%5Bimage%3Atst.png%7Cleft%7Cx%5D%5Dc&removecomments=true>)

```
a[ [ image:tst.png | thumb | left | x ] ]b[ [ image:tst.png | frame | left | x ] ]c → a
```



b

c [39] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5Bimage%3Atst.png%7Cthumb%7Cleft%7Cx%5D%5Db%5B%5Bimage%3Atst.png%7Cframe%7Cleft%7Cx%5D%5Dc&removecomments=true>)



```
a[ [ image:tst.png | thumb | left | x ] ]b[ [ image:tst.png | frame | right | x ] ]c → a
```



b

c [40] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=a%5B%5Bimage%3Atst.png%7Cthumb%7Cleft%7Cx%5D%5Db%5B%5Bimage%3Atst.png%7Cframe%7Cright%7Cx%5D%5Dc&removecomments=true>)



Link

By default an image is linked to its image page: [[Image:Tst.png|x]] → [41] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Cx%5D%5D&removecomments=true>)

The *link* parameter can modify this.

Important note: *This should only be used with images that don't require attribution (mostly public domain images). Other images must link to the image description page, otherwise they violate copyrights.*

Note: *This (appears to) work only with non-thumbnailed images.*

- Without link: [[Image:Tst.png|link=]] → [42] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Clink%3D%5D%5D&removecomments=true>)
- With internal link: [[Image:Tst.png|link=Main Page|x]] → [43] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Clink%3DMain+Page%7Cx%5D%5D&removecomments=true>)
- With interwiki link: [[Image:Tst.png|link=en:Clock|x]] → [44] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Clink%3Den%3AClock%7Cx%5D%5D&removecomments=true>)
- With external link: [[Image:Tst.png|link=http://google.com|x]] → [45] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Clink%3Dhttp%3A%2F%2Fgoogle.com%7Cx%5D%5D&removecomments=true>)

The methods above do not work with some versions with thumb and caption. Instead try brackets;

- [[Image:Pic.jpg|thumb|caption [link=http://google.com/]]]
- Without link the caption parameter does not work: [[Image:Tst.png|link=|x]] → [46] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%5B%5BImage%3ATst.png%7Clink%3D%7Cx%5D%5D&removecomments=true>)

siddiqui

Gallery

The gallery-tag is a quick way to show thumbnails in a number of columns. The images will have a single fixed width. The gallery-tag also allows text to take the position of an image. The resulting HTML is that of a table with class="gallery", with cells with class="gallerybox".

Each entry is of the form `File: image name` or `File: image name|caption, possibly with links`.

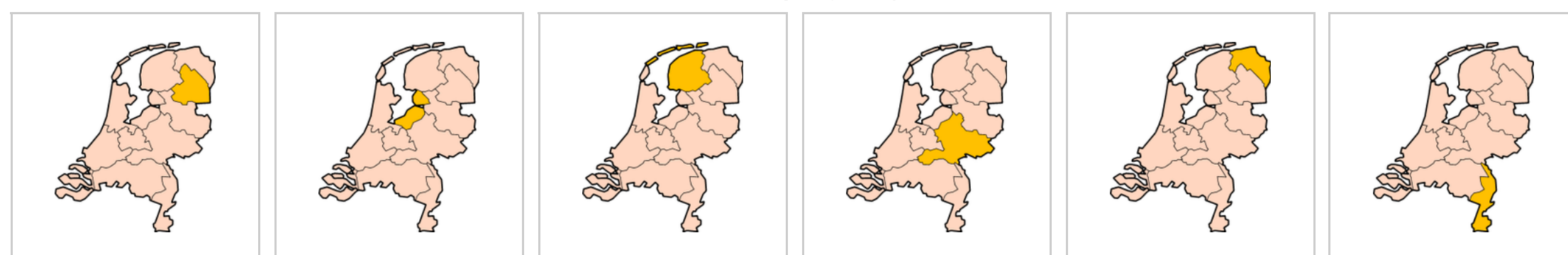
A title to the gallery can be given with the `caption=` attribute, which may contain wikilinks but not external links. The number of images per row can be set by the `perrow=` attribute; the default is 4. The width and height per image (the `widths=` and `heights=` attributes) can be set as well. If both are unset, they default to 120px. If you only set the width, the height never exceeds 120px, and vice versa. The height of the caption depends on the image width and varies per image with the length of the caption. The height of each table row is the maximum height needed in that row for an image with a caption.

Example (note that "File:" is optional, and that `|link=` can be used to make the image a link to a specified location, instead of to the image):

```
<gallery caption="Sample gallery" widths="100px" heights="100px" perrow="6">
File:Drenthe-Position.png|[[w:Drenthe|Drenthe]], the least crowded province
File:Flevoland-Position.png
File:Friesland-Position.png|[[w:Friesland|Friesland]] has many lakes
File:Gelderland-Position.png
File:Groningen-Position.png
File:Limburg-Position.png
File:Noord_Brabant-Position.png
File:Noord_Holland-Position.png
|Overijssel-Position.png
|Utrecht-Position.png
|Zuid_Holland-Position.png|[[w:South Holland|South Holland]], the most crowded province
|Zeeland-Position.png|link=nl:Zeeland (provincie)
</gallery>
```

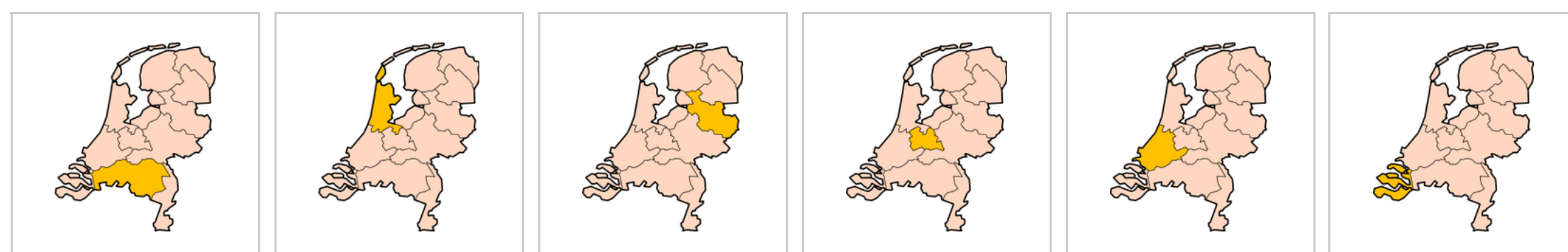
gives:

Sample gallery



Drenthe, the least crowded province

Friesland has many lakes



South Holland, the most crowded province

Note that for SVG images that use <switch>, the language can be specified:

```
<gallery>
Gerrit patchset 25838 test.svg|English<br />(default for this image)
Gerrit patchset 25838 test.svg|lang=de|Deutsch (German)
Gerrit patchset 25838 test.svg|lang=es|español (Spanish)
Gerrit patchset 25838 test.svg|lang=fr|français (French)
Gerrit patchset 25838 test.svg|lang=it|italiano (Italian)
Gerrit patchset 25838 test.svg|lang=no|norsk (Norwegian)
Gerrit patchset 25838 test.svg|lang=pt|português (Portuguese)
Gerrit patchset 25838 test.svg|lang=sv|svensk (Swedish)
</gallery>
```

gives:



English (default for this image) Deutsch (German) español (Spanish) français (French) italiano (Italian) norsk (Norwegian) português (Portuguese)



svensk (Swedish)

Gallery option of "F"

See the [template description](#) how to use it; it can be used *only* in the Commons environment.

Galleries in categories

A gallery of images on a [category](#) page is automatically shown as the fourth section of this category page. The first 20 characters of the image name are shown, with dots if that is not the full name. Both the image and the name link to the image page, instead of just the image. No alternative text or other links are possible. The file size is also shown.

For a comparison, see [commons:Category:William-Adolphe Bouguereau](#) and [commons:William-Adolphe Bouguereau](#).

Images in a table

Using table syntax, with images in separate cells, and the image syntax explained elsewhere on this page, gives more control over size, layout, captions, etc. than each of the two methods above. However, only a category page automatically gives file sizes.


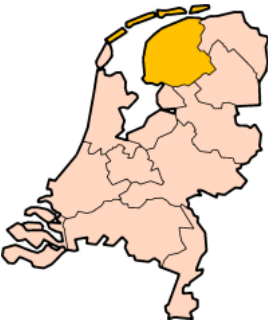



Example of an image table:

```
{| border="1"
+''Provinces of the Netherlands''
-
|
|valign="top"|
|[[File:Drenthe-Position.png|thumb|left|150px|[[w:Drenthe|Drenthe]], the least crowded province]]
|valign="bottom"|
|[[File:Flevoland-Position.png|thumb|left|100px|]]
|valign="top"|
|[[File:Friesland-Position.png|thumb|left|100px|]]
-
-
|valign="top"|
|[[File:Gelderland-Position.png|thumb|left|100px|]]
|valign="top"|
|[[File:Zuid_Holland-Position.png|thumb|left|100px|[[w:South Holland|South Holland]], the most crowded province]]
|valign="top"|
|[[File:Utrecht-Position.png|thumb|left|50px|]]
|}
}
```

gives:

Provinces of the Netherlands

--	--	--


 <p>Drenthe, the least crowded province</p>		
	 <p>South Holland, the most crowded province</p>	

Note that, with this method, each image has a width specified by the size option, if any, and a height depending on whether there is caption or not, and how long the caption is. The width of a column is determined by the widest image in it, and the height of the row is determined by the tallest image in it.


Template:Gallery supports making a gallery using table syntax.

The parameters `|left` and `|right` may give complications inside a table (and may not be needed anyway), depending on the browser. In IE the first table sometimes (!) displays text through the image:

```
{| border="1"
| [[File:Crystal_Clear_app_clock.png|left]]
| abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz
| abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz
| abcdefghijklmnopqrstuvwxyz
|}
```

	<p>abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz</p>
--	---

```
{| border="1"
| [[File:Crystal_Clear_app_clock.png]]
| abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz
| abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz
| abcdefghijklmnopqrstuvwxyz
|}
```

	<p>abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz abcdefghijklmnopqrstuvwxyz</p>
--	---

Linking

To link to an uploaded file, e.g. Flag of Somalia.svg, use `[[Media:Flag of Somalia.svg]]` instead of `[[Image:Flag of Somalia.svg]]`, giving [Media:Flag of Somalia.svg](#); to link to the image description page, use `[:Image:Flag of Somalia.svg]`, giving [Image:Flag of Somalia.svg](#) (the first colon is not displayed). In the case of **non-image uploads**, e.g. office files (if allowed by the system), the keyword 'media' is used even though office documents are not typically classed as media, in the context of audio/video etc.

Piped links work as usual. Existence detection, with a link to the edit page if the page does not exist, works as usual, but is applicable for the image *page*, not the file.

Interwiki linking style gives a link to the image page. If interlanguage links would be applicable, use a colon in front of the language code, e.g. [[:de:Bild:Europa-Pos.png]], to avoid the link being put in the margin. For embedding (if possible, see below) and linking to the file itself, use external link style.

External link syntax is as usual. However, if you want a link to an image proper on a page of a project that allows embedded external images, use a bracketed link syntax and not just the URL, to prevent embedding.

Below one can see the result of the three types of internal link style and external link style on this project. To test this in another project, copy the wikitext there. If applicable, check also the interlanguage links at the margin of the page. Note that some links go to the image description page, others just to the image itself.

- [[:Image:Gelderland-Position.png]]



- [[:Image:Gelderland-Position.png]]Image:Gelderland-Position.png
- [[:Media:Gelderland-Position.png]]Media:Gelderland-Position.png
- external, with label: [http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png Gelderland Gelderland (http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png)
- external, footnote style: [http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png] [47] (http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png)
- external, just the URL: http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png http://en.wikipedia.org/upload/d/d1/Gelderland-Position.png

Navigational maps

Navigational maps like [48] (http://www.sdu.nl/staatscourant/gemeentes/gemprovin.htm#ZH) have map areas linked to pages. The html with <area> tags can not be put in the wikitext. However, there are the following possibilities:

- With ImageMap (MW 1.9+) you can define areas in an image and link to wiki pages when clicking on that area.
- EasyTimeline allows the creation of an image and a page embedding that image, with rectangular map areas defined by <area> tags in the html. The title of a link to a non-internal page is only the domain name, e.g. "en.wikipedia.org/.". The length and width of the rectangle can not be controlled, except that it depends on the length of the link label and its font size. In case of overlap of rectangles one has to look at the hoverbox or statusbar to avoid following the wrong link. In case of much overlap it may not be possible to use all links.
- One can divide an image in rectangles, like in these chess and go positions, or superimpose an area with images (see above) and link each rectangle/image to the desired target by means of a redirect on the image page (provided that the target is internal).

See also:

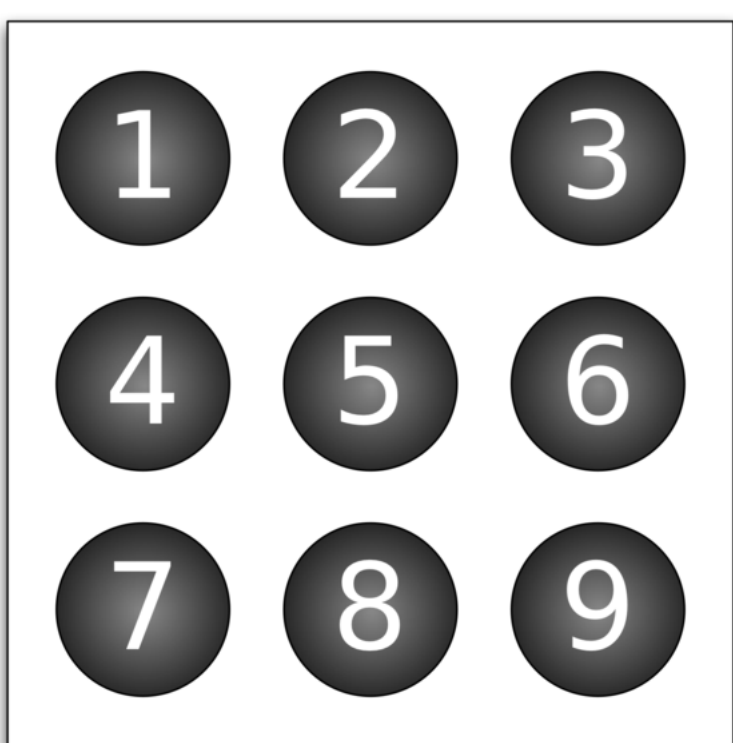
- Help:Composite images - Allows superimposing a linked text onto an image.
- Map of Downtown Ottawa, w:Wellington Street.

Example using ImageMap

Example:

```
<imagemap>
|Image:Sudoku dot notation.png|300px
|circle 320 315 165 [[w:1|1]]
|circle 750 315 160 [[w:2|2]]
|circle 1175 315 160 [[w:3|3]]
|circle 320 750 160 [[w:4|4]]
|circle 750 750 160 [[w:5|5]]
|circle 1175 750 160 [[w:6|6]]
|circle 320 1175 160 [[w:7|7]]
|circle 750 1175 160 [[w:8|8]]
|circle 1175 1175 160 [[w:9|9]]
|default [[w:Number|Number]]
</imagemap>
```

Output of this example:



See also:

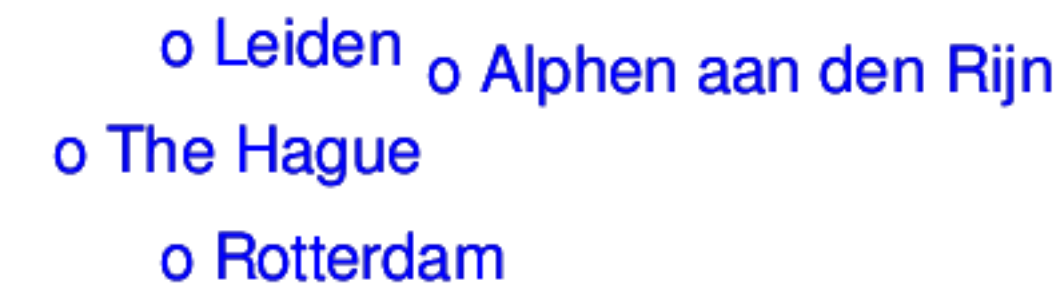
- en:Category:Wikipedia image maps
- nl:Categorie:Wikipedia:Imagemap

Examples using EasyTimeline

Example 1

```
<timeline>
ImageSize = width:400 height:150
PlotArea = width:400 height:150 left:0 bottom:0
TimeAxis = orientation:vertical # dummy, required
Period = from:0 till:1 # dummy, required
Define $s = fontsize:XL
TextData =
 pos:(50,120) $s text:[http://en.wikipedia.org/wiki/Leiden|o Leiden]
 pos:(150,110) $s text:[http://en.wikipedia.org/wiki/Alphen%20aan%20den%20Rijn|o Alphen aan den Rijn]
 pos:(10,80) $s text:[http://en.wikipedia.org/wiki/The%20Hague|o The Hague]
 pos:(50,40) $s text:[http://en.wikipedia.org/wiki/Rotterdam|o Rotterdam]
</timeline>
```

gives



Example 2

```
<timeline>
Preset = TimeHorizontal_AutoPlaceBars_UnitYear
ImageSize = width:500 barincrement:50
Period = from:0 till:12
BarData=
 bar:a
 bar:b
 bar:c
Define $s = fontsize:XL
BackgroundColors = canvas:white
PlotData=
 width:20
 shift:(45,-5)
 bar:a from:3 till:4 $s text:[http://en.wikipedia.org/wiki/Leiden|Leiden]
 bar:a from:6 till:7 $s text:[http://en.wikipedia.org/wiki/Alphen%20aan%20den%20Rijn|Alphen aan den Rijn]
 bar:b from:1 till:2 $s text:[http://en.wikipedia.org/wiki/The%20Hague|The Hague]
 bar:c from:3 till:4 $s text:[http://en.wikipedia.org/wiki/Rotterdam|Rotterdam]
</timeline>
```

gives



Alternatives

Some attempts for other alternatives (note the hover boxes):

```
o
o
o
```

Ascii art map, with both the city outline and the label clickable:

```

 x
xxx Leiden
 x

xx
xxxx The Hague
xxx

   xx
xxxxx Rotterdam
xxxx
```

When external images can be embedded:

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png>

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png>

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png>

The HTML titles are "w: Leiden", etc., the alt attribute is "Tst.png". [Opera](#) shows the title in the hoverbox, and also the url, [IE](#) only shows the titles.

With labels:

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png> Leiden

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png> The Hague

<http://upload.wikimedia.org/wikipedia/commons/2/27/Tst.png> Rotterdam

See also [m:Maps](#), [m:Maps' clickability](#).

For using an image as a link to another document, see [Help:Navigational image](#). For more possibilities, see [en:Wikipedia:Extended image syntax](#). Also, the source of existing pages with images are useful as examples.

Template for showing links to files with appropriate icons

For a template to enable files to be shown as links with relevant icons, as well as a link to the file's wiki page, see [here](#).

This is for wikis that support embedding external images - which is most personal, corporate and organizational wikis based on MediaWiki. Notable exceptions are Wikipedia and Meta. Because Meta can't render this template, here is an image of how the template appears: [MetaWikiPedia:Image:PDF file example.png](#)

See also

- [mw:Help:Images](#)
- [Help:Image page](#)
- [Non-free content](#)
- [Wikipedia:Extended image syntax](#)
- [Help:Composite images](#)
- [Collaborative images](#)
- [Parser testing#Pictures](#)
- [Wikipedia:Image use policy](#)
- [mw:Manual:Image Administration](#)
 - [mw:Manual:\\$wgFileExtensions](#): setting the list of allowed/preferred file extentions
 - [mw:Manual:\\$wgAllowExternalImages](#): allowing embedding of external images
- [mw:Manual:Configuring file uploads](#)
- [mw:Extension:WikiTeX:MediaWiki](#) extension that can produce graphs of functions, various diagrams, etc
- [Image pages](#)
- [Sample image copyright case](#)

External links

- Before publishing any images, keep in mind that they can contain [hidden data](http://netzreport.googlepages.com/hidden_data_in_jpeg_files.html) (http://netzreport.googlepages.com/hidden_data_in_jpeg_files.html).
- [PNG, JPEG, and Fractals](http://www.fractalus.com/info/png-jpeg.htm) (<http://www.fractalus.com/info/png-jpeg.htm>)
- [List of image file types](http://dotwhat.net/type/image-picture-files/) (<http://dotwhat.net/type/image-picture-files/>)
- [Image File Types](http://www.fileinfo.com/filetypes/image) (<http://www.fileinfo.com/filetypes/image>)
- [Bitmap Image Files](http://www.file-extensions.org/filetype/extension/name/bitmap-image-files) (<http://www.file-extensions.org/filetype/extension/name/bitmap-image-files>)

- `class="floatleft"`, `class="floatright"`, `class="center"` with `class="floatnone"`, and just `class="floatnone"`. The actual position depends on css.

[Find all projects using a given Commons image](#)

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Images_and_other_uploaded_files) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Images_and_other_uploaded_files) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Images_and_other_uploaded_files) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Images_and_other_uploaded_files) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Images_and_other_uploaded_files)

Reading

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Help:Preview

Languages:

English ·

(<https://meta.wikimedia.org/w/index.php?title=Help:Preview/ar&uselang=ar>) العربية

Below the edit box is a **Show preview** button. Pressing this will show you what the article will look like without actually saving it. It is strongly recommended that you use this prior to saving. This allows you to check what the page will look like first and to check that you haven't made any errors. It also prevents the need for multiple saves. Saving the same article a large number of times in quick succession makes it harder for people to check what changes have been made, and clogs up the [page history](#).

It is helpful, however, to save the page before moving, breaking apart, or combining sections of the article, if you have been making small edits to the article. The difference display is not good at showing paragraph moves, and will not display the small edits clearly if sections are then moved around.

Saving only once is also a way of avoiding [edit conflicts](#), as people will not see the article on [recent changes](#) or their [watchlist](#), and therefore they are less likely to try editing it at the same time as you.

If you are [logged in](#), you can set your [preferences](#) to show the preview positioned before the edit box instead of after it. If you select this option, the preview will be displayed above the edit box when you click the "Show preview" button while editing a page.

Preference "Show preview on first edit": - when pressing the edit button or otherwise following a link to an edit page, show not only the edit box but also the rendered page, just like after pressing "Show preview".

In the case of [automatic conversion of wikitext](#) the preview shows the rendering, while the button "show changes" shows the new wikitext. In the case of [recursive conversion of wikitext](#) the preview before/without making manual changes to the wikitext is not the same as the rendering of the current page.

Using show preview also prevents your login timing out, which would mean your edits would not be attributed to your user name. Clicking preview regularly will restart the timer, so you remain logged in. Also, if you are no longer logged in, showing a preview will make you aware of this so you can log in and save your work after that. You can check this by seeing if your user name appears in the upper-right corner when you press preview. If you are not logged in, open [Special:Userlogin](#) in a separate window (right-click "Log in" and hit "Open link in new window" or similar). Log in, then go back to your editing and hit "preview" again to make sure all is well. Note that this will clear the minor edit and watch checkboxes, so make sure they're set appropriately again before you finally save the page.

When utilizing this feature during a major edit, consider copying the content into your [clipboard](#). On rare occasions servers may have hiccups, and you could lose your work.

When pressing "preview", also a preview of the [edit summary](#) is obtained. Thus links can be checked, including existence detection and the working of piped links. Also, while the summary may be too long to be seen in the input box without scrolling, its preview is fully shown up to the total capacity of the input box.

While editing a template one can see the effect to a page that directly or indirectly calls that template by using the template preview feature: in the area "Preview page with this template", fill in the page name and press the extra button "Show preview"; to return press "Go to editing area".

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Limitations, detecting preview mode

If an edit places or changes a section tag, with a reference to it on the same page, for example in `p=<section begin=p/>12<section end=p/>, p²={{#expr:{{#lst:Help:Preview|p}}^2}}` giving `p=12, p2=144`, the preview is based on the section tags, if any, in the saved version.

`{{REVISIONID}}` gives the empty string in preview. This can be used to detect preview mode: `{{#if:{{REVISIONID}}|This is the normal page|This is the preview}}` gives "This is the normal page".

Preview of a footnote

When creating a footnote using section editing, preview only shows the footnote mark, not the footnote content, if the wikitext "`<references />`" is in another section. A workaround is putting that code temporarily in the section, just for the preview. If previewing the footnotes of a section is needed more often, it may be convenient to put `<!--<references />-->` in the section, and to disable this commenting-out temporarily on preview, e.g. by adding a blank space to the opening comment tag: `<!--<references />-->`.

Preview of an upload

The file upload page does not have a preview for the summary nor for the automatic SVG to PNG translation.

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(<https://meta.wikimedia.org/w/index.php?title=Help:Preview/ar&uselang=ar>) العربية

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Help:Testing

Before committing to a change, one should test it first.

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Testing features of existing software on one of the regular projects

Test wiki

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Changes to a page

There is a "Show preview" button near the submit button. One should check to make sure that the links are correct and the spelling is correct. Substitution can also be checked using "Show changes".

Spelling

linuxquestions.org appears to have a spelling checker in their modified version of MediaWiki. Also, one can use Firefox, Konqueror, Internet Explorer or Opera with a spelling check extension to check spelling within the browser window.

Testing features of existing software on one of the regular projects

This applies anyway for tests that depend on settings which are different per project, such as:

- interlanguage links (software feature)
- case-sensitivity of the first character
- character encoding
- enabling of embedding images in other projects and images outside Wikimedia
- MediaWiki:Monobook.css, etc.
- tests depending on other content, such as templates, images
- tests depending on project-specific variables such as namespace prefixes

It can be done:

- in special pages such as Meta:Sandbox
- on user pages and subpages
- using Preview - this can not be used to test how a change in a page affects another page, such as when changing a template; to test automatic conversion of wikitext, the new wikitext can be seen pressing Show changes. Automatic conversion of special characters to their decimal numeric codes is seen in the edit box.

A test involving variable `{{PAGENAME}}`, e.g. a link to an image or another page with a name containing `{{PAGENAME}}`, can be done on the Talk page, since the value of the variable is the same on that page.

Sysops testing the available links and how things work for ordinary logged-in users can log in under another name, or in a project for which they are not a sysop.

Test wiki

<http://test.wikipedia.org/>.

An advantage is that it does not interfere with, or clutter, the regular projects. The project may be reset, or history may otherwise be lost, so one has to save elsewhere what one wants to keep.

See also

- [m:MediaWiki test script](#)

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Help:Reverting

Reverting involves returning a page to a previous version of its history, as documented in the corresponding tab. In the context of the English Wikipedia's three-revert rule, a revert is defined more broadly as any action, including administrative actions, that reverses the actions of other editors, in whole or in part.

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When to revert

'Do's

See also: Revert only when necessary

- Reverting should be taken very seriously.
- Reverting is often used for fighting vandalism and similar abuse.
- If you are not sure whether a revert is appropriate, discuss it first on the article's talk page.
- If you feel the edit is unsatisfactory, then try to improve it first, if possible. This may entail correcting factual information, grammar or writing style, such as trimming verbosity.
- You can revert your own edit, if you realize that it is incorrect. Before reverting, be sure to check if another editor has made changes in the interim.
- If only part of an edit is problematic, consider modifying only that part, instead of reverting the whole edit.

Don'ts

- Don't let superfluous or badly written material stand, in order to avoid slighting its original author. Though your intentions may be good, doing so shirks your duty to the reader.

- If your material is reverted, **don't take it personally**. Not every fact, detail or nuance belongs in an encyclopedia.
- If an edit can be improved by avoiding weasel words or re-phrasing in a more neutral point of view manner, then try to **reword, rather than revert**.
- Do not revert solely because "there is no consensus in favour of the change". Only revert if you actually think the previous version is better.
- Generally, there are misconceptions that problematic sections of an article or recent changes are the reasons for reverting or deletion. If they contain valid and encyclopedic information, these texts should simply be edited and improved accordingly.
- It is sometimes difficult to determine whether a claim is true or useful, particularly when there are few people "on board", who are knowledgeable about the topic. In such a case, it is a good idea to raise objections on a talk page; if there is reason to believe that the author of what appears to be biased material will not be induced to change it, editors sometimes choose to transfer the text in question to the talk page itself, thus not deleting it entirely. This action should be taken more or less as a last resort, never as a way of punishing people, who have written something biased. See also: Neutral point of view/FAQ

How to revert

Manual method

- Go to the top of the page in question, click on the "history" or "page history" (in some skins) tab; then, click on the "time and date" of the earlier version, to which you wish to revert.
- When that page displays, you will see a phrase similar to: "This is an old revision of this page, as edited by ***.*.***.*** (Talk) at 15:47, January 24, 2009. It may differ significantly from the current revision."
- Verify that you have selected the correct "old revision" version and click on the "edit this page" tab, as you would normally do.
 - **Important:** in the case of vandalism, take the time to make sure that you are reverting to the last version without the vandalism; there may be multiple consecutive vandal edits or they may be interspersed between the constructive edits.
- Above the edit box, you will see a warning similar to: "You are editing an old revision of this page. If you save it, any changes made since then will be removed."
- Ignore this warning and save the page. Be sure to add the word "revert" or the abbreviation "rv" and a brief explanation for the revert to the "edit summary". It is possible to wikilink the usernames, associated with the versions that you are reverting from and to.

- For example, when reverting vandalism by a user identified only by their IP address, an edit summary would be:

Reverted edits by [[Special:Contributions/<IP address>|<IP address>]] to last version by [[Special:Contributions/Example|Example]]

- When the username is known, an edit summary would be:

Reverted edits by [[User:<username>|<username>]] to last version by [[User:Example|Example]]

Note: when reverting blatant vandalism, "rvv" normally suffices, as speed is more important than a full edit summary with usernames or IP addresses.

- Click on the "history" tab again. A new line will have been added and you will be able to verify (by clicking on "last"), that you undid the vandalism, plus all subsequent bona fide edits, if any. It is courteous to redo all the constructive edits that were undone along with the edit(s) which you intended to revert. This should always be done, where it is reasonably possible.
- In a vandalism case, where sections of text were simply deleted and then, subsequent edits were made by others, it may be easier for you to cut and paste those missing sections of text back in, than to revert and then, re-do the edits.
- Check the contribution history of the user, who vandalized the article. (Click on the IP address for anonymous users or the "contribs" for registered users.) If this user is vandalizing many articles, please report them to administrator intervention against vandalism at Wikipedia or to the relevant administrators' noticeboard on other projects.

User shortcuts

- Sam Hocevar's godmode-light.js script adds functionality similar to the admin *rollback* links described below. More info at WP:US.
- The vandal edit can also be reverted using popups or monobook-suite.

Undo

The latest versions of MediaWiki allow editors to revert a single edit from the history of a page, without simultaneously undoing all constructive changes that have been made since. To do this, view the diff for the edit, then click on 'undo' above the newer version. The software will attempt to create an edit page with a version of the article in which the undesirable edit has been removed, but all later edits are retained. There is a default edit summary, but it can be changed. It is also possible to make further modifications before saving.

This feature removes the need to manually redo useful changes that were made after the edit which is being reverted. However, it will fail, if undoing the edit would conflict with later edits. For example, if edit 1000 adds a paragraph and edit 1005 modifies that paragraph, it will be impossible to automatically undo edit 1000. In this case, you must determine how to resolve the problem manually.

Misuse

Vandals may click "undo" next to reversion of vandalism to easily load the vandalism back onto the page. These actions are reverted and treated as vandalism.

Advanced features

Rollback

Administrators and users who have been granted access to the tool have additional "rollback" links, which:

- appear only next to the top edit
- revert *all* top consequent edits made by last editor
- work immediately, without the intermediate confirmation diff page
- add automatic edit summary "*Reverted edits by Example (talk) to last version by Example2*", marking edit as minor (**m**)

Rollback links appear on the user contributions pages, history pages and diff pages. Note that in the last case, rollback links can be misleading, since reversion is not necessarily to the old version shown (the diff page may show the combined result of edits, including some by other editors or only part of the edits the rollback button would revert). To see the changes the rollback button will revert, view the specific diff, which compares the last version from the last editor with the last version from the previous editor.

Rollback works much quicker than undo, since it:

- allows reverting without even looking at the list of revisions or diff
- does not require loading an edit page and sending the wikitext back to the server
- does not require a click of the save button

On the other hand, it is not as versatile as undo, since it does not allow specification of which edits have to be undone. One may want to revert more or less edits than the rollback does or edits which do not include the last edit. It also does not allow adding an explanation to the automatic edit summary. Rollback is supposed to be used to revert obvious vandalism.

Rolling back a good-faith edit, without explanation, may be misinterpreted as "I think your edit was no better than vandalism and reverting it doesn't need an explanation". Some editors are sensitive to such perceived slights; if you use the rollback feature other than for vandalism (for example, because undo is impractical due to the large page size), it is courteous to leave an explanation on the article's talk page or on the talk page of the user, whose edit(s) you have reverted.

If someone else edited or rolled back the page, before you clicked "rollback" link or if there was no previous editor, you will get an error message.

Bot rollback

In cases of flood vandalism, administrators may choose to hide vandalism from recent changes. To do this, add `&bot=1` to the end of the URL, used to access a user's contributions. For example: `http://en.wikipedia.org/w/wiki.phtml?title=Special:Contributions&target=SomePersistentVandal&bot=1`.

When the rollback links on the contributions list are clicked, the revert and the original edit, that you are reverting will both be hidden from recent changes, unless you click the "bots" link to set `hidebots=0`. The edits are not hidden from contributions lists, page histories or watchlists. The edits remain in the database and are not removed, but they no longer flood "Recent changes". The aim of this feature is to reduce the annoyance factor of a flood vandal, with relatively little effort. This should *not* be used for reverting a change you just don't like, but is meant only for massive floods of simple vandalism.

Revert wars are considered harmful

Reasons

Revert wars are usually considered harmful, for the following reasons:

1. They cause ill-will between users, negatively destabilize articles and make other editors wary of contributing.
2. They waste space in the database, make the page history less useful and flood the recent changes and watchlists.
3. Some editors may be sensitive and to them, a revert is "a bit like a slap in the face"; for example: "I worked hard on those edits and someone just rolled it all back".
4. They often produce inconsistencies in an article's content, because the editors involved focus only on one part of the article without considering other sections or articles that depend on it.

Resolutions

Editors should not revert simply because of disagreement. Instead, explore alternative methods, such raising objections on a talk page or following the processes in dispute resolution.

Three-revert rule

Main article: Three-revert rule

As a means to limit edit wars, Wikipedia's policies and guidelines state that one may not revert any article more than three times in the same day. This is a hard limit, not a given right. Attempts to circumvent the three-revert rule, such as making a fourth revert just after 24 hours, are strongly discouraged and may trigger the need for remedies, such as an editing block on one's account.

Explain reverts

When a revert is necessary, please let people know *why* the edit was reverted. The editor whose material was reverted may then be able to revise their edit, thus correcting the problem that was identified.

Explaining reverts will also help other editors. For example, an explanation may let other editors know, whether or not, they need to even view the reverted version, such as in the case of blanking a page. Due to the nature of online, non-verbal communication, if actions are not explained clearly enough, wrong assumptions may be made by the other editors. This is one of the most common causes of an edit war. Explaining reverts also helps users, who are reading the encyclopedia article and checking the edit history, to see to what extent the information in the article is reliable or current.

If your reasons for reverting are too complex to explain in the edit summary, leave a note on the Talk page. It is sometimes best to leave a note on the Talk page *first* and *then* revert, rather than the other way around; thus giving the other editor a chance to agree with you and revise their edit appropriately. Conversely, if another editor reverts your change without any apparent

explanation, you may wish to wait a few minutes to see if they explain their actions on the article's or your user's talk page.

Exceptions

Edits that do not contribute to edit warring, are generally considered to be exceptions to the three-revert rule, such as reverts of obvious vandalism, reverts of banned users or removal of potentially libelous text. For further information, see: Exceptions to the three-revert rule.

Please request protection rather than reverting. Violation of this rule may lead to protection of the page on the version preferred by the non-violating party, blocking or investigation by the Arbitration Committee.

See also

- "Reverting" in page translation administration

Links to other help pages

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Help:Expansion

Expansion of templates, parser functions, variables (on this page collectively called ***templates*** in italics), and template parameters (***tplargs***) is done in substitution, and also as the first steps in page rendering. It consists of two phases: the creation of an XML parse tree, and producing the expanded wikitext. After expansion, two more steps are producing the HTML, and (in the user's browser) rendering the page. Considering intermediate results can be helpful in understanding the process.

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Overview

Expansion of templates, parser functions, variables, and template parameters is done during substitution, and also as first step in page rendering. Expansion is needed because :

- The wikitext may contain templates calls, as `{{..|..|..=..}}`, `{{..:..|..|..}}`..., which should be recognized and replaced by their content ;
- The wikitext may contain variable names, as `{{{..}}}`, `{{{..|..}}}`... which should be identified and replaced by their current value.

where a dotted part may contain such structures itself, etc. The Wikitext is therefore parsed with respect to such patterns, and (because pipes may be embedded in such structures) double rectangular brackets `[[.. | ..]]` delimiting links, to determine the limits of plain Wikitext and the parts that should be substituted.

Expansion of a given level must solve two questions :

- Delimit the structures that are to be replaced, by determining the corresponding begin, intermediary and end markers ;
- Determine the wikitext by which that structure must be replaced.

...keeping in mind that the expanded structures and/or the substitution file may themselves contain templates, variable names or links, and may therefore be nested within one another. Pipes, semicolons, and equals signs are, as far as applicable, taken as belonging to the innermost structure in which they occur, and never interpreted as part of an outer structure.

The first level expansion start with the outermost structures. After fully determining which pairs and triples of braces (or double square braces) belong together, and which pipes and equals signs belong to the same structure, etc., the parser has identified the outermost structures delimiters, and the chunks of wikitext (possibly containing structures) that are inserted in those structures, between pipes, equal signs or semicolons attached to that level. Expansion of the outermost structures starts.

1. The wikitext for the **name** is (second level-)expanded for all parser functions and templates, template parameters, and variables.
2. After which it is determined for which **parameter values** the wikitexts need to be (second level-)expanded.
3. For a template, in the template body,
 - The wikitexts for the names of the **formal parameters** is (second level-)expanded.
 - The formal parameters are replaced by the wikitext expansion of the parameter value, or (when undefined) the **defaults value** (if any) is to be taken and therefore (second level-)expanded, or the formal parameter is left unchanged.
 - The template body is itself (second level-)expanded.

The expansion of a first-level structure therefore relies on the expansion of its second-level substructures, and so on recursively. Note that since the structure parsing is done before the expansion, structure markers (pipes, semicolons, and equals signs) found in the wikitext that *result* from an expansion cannot be taken into account as markers for the embedding structure. A template may therefore return wikicode that would by itself be expanded when inserted in a file, such as `{{template}}`.

The result of this expansion is shown with [Special:ExpandTemplates](#) (see [mw:Extension:ExpandTemplates](#)). For studying the expansion step this intermediate result is more useful than the rendered page, especially in the case of a table and/or when looking into newlines produced.

- Most of the time, for simple templates, the wikitext for the name is a simple character string, and the parameter values is simple wikitext that need not be expanded. Those are discussed in [help:template](#).
- Special cases for the structure analysis (unbalanced braces,...) are discussed [here](#).
- Special cases of name expansion are discussed in [Help:Advanced templates](#).
- Wicked cases of recursive expansion are discussed in [Help:Recursive conversion of wikitext](#).

XML parse tree

The wikitext is parsed in [Preprocessor DOM.php](#). The result is an XML parse tree, also called DOM tree. The tree code is shown with the option "Show XML parse tree" of [Special:ExpandTemplates](#) (see [mw:Extension:ExpandTemplates#XML parse tree](#)). The parse tree of a page always starts with `<root>` and ends with `</root>`. These tags are not shown in the examples.

Parsing is done with respect to pairs of double braces `{{..}}` delimiting a *template*, and pairs of triple braces `{{{..}}}` delimiting a *tplarg*. If double opening braces are followed by triple closing braces `{{..}}` or conversely `{{{..}}`, this is taken as delimiting a *template*, with one left-over brace outside it taken as plain text. For any pattern of braces this defines a set of *templates* and *tplargs* such that any two are either separate or nested (not overlapping).

Unmatched double rectangular closing brackets `]]` can be in a *template* or *tplarg*, but unmatched double rectangular opening brackets `[[` cannot. Unmatched double or triple closing braces inside a pair of double rectangular brackets `[[...]]` / `[[...]]` are treated as plain text. Other formulation: in ambiguity between *template* or *tplarg* on one hand, and a link on the other hand, the structure with the rightmost opening takes precedence, even if this is the opening of a link without any closing, so not producing an actual link.

Examples (*title* is in general a part of a *template* or *tplarg*, see below, but here the whole of it):

```
{{ {{{ }} }}
{{{ {{ }} }}
[[ {{ ]] }}
[[ {{{ ]] }}}
{{ [[ ]}
{{ [[ ]} ]]
{{ [[ ]} ]] }}
{{{ [[ ]}}
{{{ [[ ]}} ]]
{{{ [[ ]}} ]] }}
```

give the parse trees:

```
<template><title> {<template><title> </title></template> </title></template>}
{<template><title> <template><title> </title></template>} </title></template>
[[ <template><title> ]] </title></template>
[[ <tplarg><title> ]] </title></tplarg>
{{ [[ ]}
{{ [[ ]} ]]
<template><title> [[ ]} ]] </title></template>
{{{ [[ ]}}
{{{ [[ ]}} ]]
<tplarg><title> [[ ]}} ]] </title></tplarg></pre>
```

In the case of more than three opening braces the last three are assumed to belong to a *tplarg*, unless there is no matching triple of closing braces, in which case the last two opening braces are assumed to belong to a *template*.

Examples:

```
{{{{ }}}}
```

```
{{ {{ }}}}
```

```
{{{{ }} }}
```

```
{{{{{ }}}}
```

```
{{{ {{ }}}}
```

```
{{{{{ }} }}
```

give the parse trees:

```
{<tplarg><title> </title></tplarg>}
```

```
<template><title> <template><title> </title></template></title></template>
```

```
<template><title><template><title> </title></template> </title></template>
```

```
<template><title><tplarg><title> </title></tplarg></title></template>
```

```
<tplarg><title> <template><title> </title></template></title></tplarg>
```

```
<tplarg><title><template><title> </title></template> </title></tplarg>
```

Thus, when nesting two double-brace structures, of which the outer structure does not have any pipe, at least one blank space is needed to avoid the pair of inner three braces to be interpreted as a triple-brace structure, and the outer two braces as plain text. This space does not affect the expanded wikitext because in the next processing phase spaces are stripped from the start and end of *title*.

Pipes

Templates and *tplargs* are decomposed in the same way, with pipes as separator, even though eventually any parts in a *tplarg* after the first (the parameter default) are ignored, and an equals sign in the first part is treated as plain text. Pipes inside inner *templates* and *tplargs*, or inside double rectangular brackets within the *template* or *tplargs* are not taken into account in this decomposition. The first part is called ***title***^[1], the other parts are simply called ***parts***. If a *part* has one or more equals signs in it, the first equals sign determines the division into *name* = *value*. Equals signs inside inner *templates* and *tplargs*, or inside double rectangular brackets within the *part* are not taken into account in this decomposition. *Parts* without equals sign are indexed 1, 2, ..., given as attribute in the <name> tag.

Examples:

```
{{{ | | [[ | | ]] }}
```

```
{{{{ | | [[ | | ]] }}
```

give the parse trees:

```
<template><title> </title><part><name index="1"/><value> </value></part><part><name index="2"/><value>
[[ | | ]] </value></part></template>

<tplarg><title> </title><part><name index="1"/><value> </value></part><part><name index="2"/><value>
[[ | | ]] </value></part></tplarg>
```

and

```
{{a|b|c=d|e}}
{{{a|b|c=d|e}}}
```

give the parse trees:

```
<template><title>a</title><part><name index="1"/><value>b</value></part><part><name>c</name>=
<value>d</value></part><part><name index="2"/><value>e</value></part></template>

<tplarg><title>a</title><part><name index="1"/><value>b</value></part><part><name>c</name>=
<value>d</value></part><part><name index="2"/><value>e</value></part></tplarg>
```

This is applied recursively: the wikitexts a, b, c, d, and e can themselves contain similar structures, and are then represented in the tree by similar code.

The parse tree does not distinguish between variables, parser functions, and templates. The `<template>` tag refers to any of them. The tree is independent of the existence of a variable, parser function, or template with the given name, so when trying out with `Special:ExpandTemplates` how the first parsing phase works we do not have to bother using names of actual variables, parser functions, and templates.

Brackets

Like already demonstrated, `{{a|b[[c|d|e=f]]g}}` gives `<template><title>a</title><part><name index="1"/><value>b[[c|d|e=f]]g</value></part></template>`

However,

```
{{a|b[c|d|e=f]g}} gives <template><title>a</title><part><name index="1"/>
<value>b[c</value></part><part><name index="2"/><value>d</value></part><part>
<name>e</name>=<value>f]g</value></part></template></root>
```

and

```
{{a|b<c d=e>f</c>g}} gives <template><title>a</title><part><name>b&lt; c d</name>=
<value>e&gt; f&lt; /c&gt; g</value></part></template>
```

This demonstrates that double rectangular braces shield pipes and equals signs inside from being considered part of an outer structure, but single rectangular braces and angle brackets do not. (Note also that angle brackets which are not part of the XML tags are written `<` and `>` to avoid confusion.)

Expanded wikitext

The second step is the conversion of the parse tree to expanded wikitext. The result of the first and second step combined is shown with [Special:ExpandTemplates](#), and with the `action=raw&templates=expand` parameters in the URL (like this (<https://meta.wikimedia.org/w/index.php?title=Help:Expansion&action=raw&templates=expand&ctype=text/css>)); also the wikitext `{{#tag:nowiki|...}}` expands to the expansion of the wikitext at the place of the dots, with the whole inside nowiki tags; hence it is displayed as this expansion of the wikitext at the place of the dots.

The wikitext can be considered a string expression, consisting of string literals without delimiters, and string functions (the brace structures), without operators: the only operation is concatenation by juxtaposition. They have no side effects, except if template limits are exceeded. Exception handling of a function does not stop evaluation of the expression, the function just produces a special return value; e.g. `#expr` may produce a message instead of a number; when the `#ifexist` limit is exceeded the else-value is returned; when the expand limit has been reached a brace structure is not expanded but returned as text.

There is no feature for entering a parse tree, to see what expanded wikitext it produces. However, to study what expanded wikitext a subtree of the parse tree of a given wikitext produces, one can identify the corresponding part of the wikitext, and use that as input of [Special:ExpandTemplates](#) etc. The only context sensitivity is represented in a possible attribute `lineStart="1"` in the `<template>` tag.

The first expansion step is the expansion of *title* (the wikitext before the first pipe).^[2] The *title* of a *tplarg* is always expanded, even in cases where the parameter cannot be defined: if the expansion is for rendering the template itself, and if the template is called without parameters.

Distinction between variables, parser functions, and templates

The distinction between variables, parser functions, and templates is made in function `braceSubstitution` in [Parser.php](#).

- If there are no *parts*, and *title* is a variable name (or `safesubst:` followed by a variable name), then we have a variable.
- Otherwise, if *title* contains a colon and the part before it forms the name of a parser function (or `safesubst:` followed by the name of a parser function), then we have a parser function with as first parameter the expanded wikitext of the part of *title* after the colon, while the remaining parameter names (if any) and values are the expanded wikitexts of the names and values of the *parts*. Some parameters of some parser functions expect plain text as parameters instead of name/value combinations. In that case, if there was a "=" in the text, this text is reconstructed from the supposed name, the "=", and the supposed value. For example, `<template><title>#tag:math</title><part><name>a</name>=<value>5</value></part></template>` gives the expanded wikitext `$a=5$`. Parameter values are assigned to parameters in two passes. Therefore a parameter name in a template can depend on the value of another parameter of the same template, regardless of the order in which they are specified in the template call, for example, using [Template:ppp](#) containing `"{{{p}}}<noinclude>{{Documentation}}</noinclude>"`, `{{ppp|p=q|q=r}}` and even `{{ppp|q=r|p=q}}` gives `r`, but using [Template:tvvv](#) containing `"{{{p}}}-{{{q}}}-{{{r}}}-{{{s}}}"`, `{{tvvv|p=q|q=r|r=s}}` gives `s`.
- Otherwise, if *title* is a valid template name (in particular this excludes a name starting with "#") or `safesubst:` followed by the name of an existing template), then we have a template. The representation of the *parts* corresponds to the distinction between implicitly numbered parameters (with *index* being the number) and named parameters.
- Otherwise we have plain text.

In the cases mentioned, `safesubst:` is ignored.

There are no variable names with a colon in it.^[3] However, some variable names, e.g. PAGENAME, are also the name of a parser function. Thus:

- If *title* is "PAGENAME" and there are no *parts*, and then we have a variable.
- If *title* is "PAGENAME" and there are *parts* then it is a reference to Template:PAGENAME.
- If *title* is "pPAGENAME" then it is anyway a reference to Template:PAGENAME.
- If *title* starts with "PAGENAME:" then we have a parser function.
- If *title* starts with "pPAGENAME:" then it is a reference to a template.

Examples:

- "{{PAGENAME}}" → "Expansion" [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%7D%7D%22&removecomments=true>)
- "{{PAGENAME|}}" → "Expansion" [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%7c%7D%7D%22&removecomments=true>)
- "{{pPAGENAME}}" → "Expansion" [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BpPAGENAME%7D%7D%22&removecomments=true>)
- "{{PAGENAME:}}" → "" [4] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%3A%7D%7D%22&removecomments=true>)
- "{{PAGENAME:|}}" → "" [5] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%3A%7c%7D%7D%22&removecomments=true>)
- "{{PAGENAME:help:def}}" → "Def" [6] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%3Ahelp%3Adef%7D%7D%22&removecomments=true>)
- "{{PAGENAME:help:def|}}" → "Def" [7] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGENAME%3Ahelp%3Adef%7c%7D%7D%22&removecomments=true>)
- "{{pPAGENAME:help:def}}" → "Template:PAGENAME:help:def" [8] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BpPAGENAME%3Ahelp%3Adef%7D%7D%22&removecomments=true>)

Similarly for NUMBEROFPAGES, but a difference is that as parser function with anything else than R as parameter (after the colon), it is equivalent with the variable:

- "{{NUMBEROFPAGES}}" → "10,497,548" [9] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%7D%7D%22&removecomments=true>)
- "{{NUMBEROFPAGES|}}" → "Template:NUMBEROFPAGES" [10] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%7c%7D%7D%22&removecomments=true>)
- "{{NUMBEROFPAGES:}}" → "10,497,548" [11] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%3A%7D%7D%22&removecomments=true>)
- "{{NUMBEROFPAGES:R}}" → "10497548" [12] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%3AR%7D%7D%22&removecomments=true>)
- "{{NUMBEROFPAGES:S}}" → "10,497,548" [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%3AS%7D%7D%22&removecomments=true>)
- "{{NUMBEROFPAGES:R|}}" → "10497548" [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BNUMBEROFPAGES%3AR%7c%7D%7D%22&removecomments=true>)

Based on the XML tree, expansion starts with evaluating *title* for the outermost structures, and in the case of a parser function, the separation between the name and the parameter after the colon.

Expansion of *names* and *values*

Which *names* and *values* are expanded can be demonstrated by putting a template call in each, and checking the list of templates used in the edit page, see Help:Expansion/1.

For most parser functions all *names* and *values* are expanded, regardless of what is relevant for the result. The branching functions (`#if`, `#ifeq`, `#iferror`, `#ifexist`, `#ifexpr`, `#switch`) are exceptions: for `#if`, `#iferror`, `#ifexist`, `#ifexp`, only the *part* that is applicable is expanded; for `#ifeq` the first and the applicable *part* are expanded; for `#switch`, expanded are the *names* up to and including the match (or all if there is no match), and the *value* in the case of a match or if there is no match, the default, if any.

All *names* in a template call are expanded, and the *titles* of the *tplargs* in the template body, after which it is determined which *values* must be expanded, and for which *tplargs* in the template body the first *part* (default).

In the case of a *tplarg*, any *parts* beyond the first are never expanded. The possible *name* and the *value* of the first *part* is expanded if the *title* does not match a *name* in the template call.

Braces, pipes, and equals signs produced by expansion

Braces, pipes, and equals signs which are produced by expansion are taken as just characters, not parts of structures, since evaluations happen after the production of the XML tree. A colon does not affect the XML tree anyway, the one after the name of a parser function is just part of *title*.

For example, using

- `Template:1=` containing `"1={{1}}"`
- `Template:p1=x` containing `"{{{1=x}}}"`

we have:

- `{{t1demol{{{1=x}}}}` gives start-1=x-end
- `{{t1demol{{#if:x|1=x}}}` gives start-1=x-end
- `{{t1demol{{1=|x}}}` gives start-1=x-end
- `{{t1demol{{1=|x}}=y}}` gives start-{{{1}}}-end
- `{{p1=x|{{{1=x}}}=y}}` gives y
- `{{p1=x|{{1=|x}}=y}}` gives y

Compare:

- `"{{1=|x}}"` gives `"1=x"` [15] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B1%3D%7Cx%7D%7D%22>)
- `{{t1demol1=x}}` gives start-x-end
- `{{t1demol1=x=y}}` gives start-x=y-end

The examples also show that a parameter name `"1=x"`, although impractical, works.

An example of an equals sign in a parameter value not being interpreted in a parameter definition:

- `{{t2a1|1=x=y}}` (using `Template:t2a1` containing `"{{t2demo|a|{{{1}}}}"` and `Template:T2demo` containing `start-{{{1}}}-middle-{{{2}}}-end`) gives start-a-middle-x=y-end.

Balancedness

Any wikitext is of the form `)(* (or)*)` (where `*` represents the part from the start of the first structure to the end of the last, and each parentheses represents zero or more sets of double or triple braces. If there is no such set, neither something similar for double rectangular brackets, then the wikitext is balanced.

If a wikitext is unbalanced then inserting that wikitext by hand or with substitution into another wikitext, or concatenating the two, may change some of the structures or add new ones, perhaps unintendedly, instead of only nesting them. If one wikitext is transcluded in the other there is no such complication.

A page demonstrating the result of excess closing braces and excess opening braces should put the live examples in that order, as is done in the next section.

Sensitivity to missing or excess braces

A wikitext with various pairs of double braces, e.g. `{{#switch:r|p=q|r={{tc}}|s=t}}` (and what is worse, also a more complicated one) is, of course, very sensitive to missing or excess braces. In the case of missing opening braces of `Template:Tc`, i.e. `"tc}}`", its closing braces are taken as closing braces of `#switch`, so all remaining wikitext intended to be inside the switch is now outside, and therefore shown independent of a switch index match. The latter also happens in the case of excess closing braces of `tc`: `"{{{tc}}}}`". The intended closing braces of the switch are taken as plain text.

In the case of missing closing braces in `"{{{tc}}}`", i.e. `"{{tc"`, the intended closing braces of the switch are taken as closing braces of `Template:Tc` (or more generally, as closing braces of the highest level under switch), so the switch does not have closing braces and is therefore not expanded. The latter also happens in the case of excess opening braces of `tc`: `"{{{tc}}}`".

In the case of missing closing braces or excess opening braces somewhere on a page, and also missing opening braces or excess closing braces further on on the same page, all text in between is considered part of the template call or parser function call etc., so it may not be shown, shown multiple times, etc., e.g.:

- `"{{#switch:plp=qlr={{tcls=t}} ... {{#switch:plp=qlr=tc}}|s=t}}"` gives `"q"` (seemingly unrelated text `"..."` disappears)

`Special:ExpandTemplates` essentially shows how braces are grouped into double and triple braces, but an end tag does not show to which start tag it belongs, and a simple braces error in a wikitext with many braces can be cumbersome to find. Therefore techniques to keep things manageable are useful.

To avoid that a possible braces error in a part of the wikitext of a page affects the expansion of a later part one can temporarily add excess closing braces after the part with the possible errors, at a point in the wikitext that is supposed to be on the top level (outside braces):

- `"{{#switch:plp=qlr={{tcls=t}} } } } } } ... {{#switch:plp=qlr=tc}}|s=t}}"` gives `"q} } } } ... qls=t}}"` (text `"..."` is preserved)

This raises the point of insertion to the top level (if enough closing braces are used), so that it is not part of the call of a template etc., so not conditional, not used multiple times, etc.

Further examples:

- `{{#switch:plp=qlr={{tc}}|s=t}}` gives `q`
- `{{#switch:qlp=qlr={{tc}}|s=t}}` gives
- `{{#switch:rlp=qlr={{tc}}|s=t}}` gives `{ { t l c | . . . } }`
- `{{#switch:plp=qlr=tc}}|s=t}}` gives `qls=t}}`
- `{{#switch:qlp=qlr=tc}}|s=t}}` gives `ls=t}}`
- `{{#switch:rlp=qlr=tc}}|s=t}}` gives `tcls=t}}`
- `{{#switch:plp=qlr={{tcls=t}}}` gives `{{#switch:plp=qlr={ { t l c | . . . } }`
- `{{#switch:qlp=qlr={{tcls=t}}}` gives `{{#switch:qlp=qlr={ { t l c | . . . } }`
- `{{#switch:rlp=qlr={{tcls=t}}}` gives `{{#switch:rlp=qlr={ { t l c | . . . } }`

Another method of containing the propagation of any braces error in some wikitext is putting it in a template. For example, if the wikitext with the braces error is "`{`", which is the content of [Template:Lb](#), then `{{1x|{{#if:|{{lb}}}} ...}}` gives "...", while `{{1x|{{#if:|{}} ...}}` gives "`{`" (the text "." is preserved in the first case, but not in the second).

We can apply this method e.g. for a switch, i.e. make each case a template call. If the overall template only contains this switch, based on a parameter, we can dispense with the overall template altogether and call the subtemplates directly, and they can have one parameter less, except possibly for the default case. If the name of the subtemplate is obtained by concatenation of the name of the overall template and the value of the parameter the template call gets even shorter: `{{p|q=r|s=t}}` or `{{p|r|s=t}}` becomes `{{pr|s=t}}` for supported values of r. In this case there is no mechanism to handle an unsupported r: while with the switch we get nothing or the default, here we would get a call of a non-existing template, giving a red link. Alternatively we could use something like `{{p{{#switch:r|.|.|=r|default}}|s=t}}` or `{{{{#switch:r|.|.|=pr|void}}|s=t}}`.

Compare the choice between using switch for an [array](#) and using a template for each element.

Advantages of having only a single template:

- easier to copy (to another wiki, or to make a different version)
- easier to get an overview of everything; however, this can be obtained on a separate page showing the contents of the templates with msgnw, see e.g. [Template:Xpd/msgnw](#)
- easier to make overall find/replace changes, etc.
- a common part before or after the switch is possible without duplication
- in the case of a common part, although it can be made a template, with subtemplates we at least need a template call in each

Advantages of having a template for each case:

- no propagation of wikitext errors
- less server load

Efficiency

Suppose a string S is the result of some expansion, and needed multiple times. For example, S is the municipality a given town belongs to, which is looked up in a table, and it is used for display, and for looking up the province it belongs to. Then we want to avoid that the server needs to determine the municipality twice. In a computer program we could use a variable S, but in MediaWiki (without [VariablesExtension](#)) the way to do this is with a template that uses a parameter for S. This way S is expanded only once. While extra layers of templates can increase [page counts](#), they can in a case like this reduce them. In particular, if the lookup is done in a [data template](#) containing many data items, the preprocessor node count is often large, unless the data template stores the data in the form of values of unnamed parameters (which would not be possible in the example because we start from a given town name, not an integer), so avoiding duplication is worthwhile.

Some other cases where a template is needed to avoid duplicate expansion:

- finding a number and determining its order of magnitude to determine the desired rounding
- finding a population figure for display and for computation of the population density
- if S represents a number, computing $S + 1 / S$

There are also cases where a formula can be rewritten, such that S occurs only once. For example, in an expression we can write $(S + .5)^2 - .25$ instead of $S * (1 + S)$.

See also [Help:Template#Page counts](#).

Intermediate results

In the process from wikitext to rendering, the XML tree and the expanded wikitext are intermediate results which help to understand the process. Another intermediate result that can similarly be helpful is the HTML sent to the browser.

Using XML-style tag `nowiki`, `<nowiki>{{t1demo| "p" > 1 }}</nowiki>` displays the wikitext, and with #tag, `{{#tag:nowiki|{{t1demo| "p" > 1 }}}}` displays the expanded wikitext.

Thus we have e.g.:

wikitext	<pre>[[t1demo 'p' > 1]]</pre>	<pre>{{#tag:nowiki [[t1demo 'p' > 1]}}}</pre>	<pre><nowiki>[[t1demo 'p' > 1]]</nowiki></pre>
expanded wikitext	<pre>start- 'p' > 1 - end</pre>	<pre><nowiki>start- 'p' > 1 - end</nowiki></pre>	<pre><nowiki>[[t1demo 'p' > 1]]</nowiki></pre>
HTML	<pre>start- <i>p</i> &gt; 1 -end</pre>	<pre>start- 'p' &gt; 1 -end</pre>	<pre>[[t1demo 'p' &gt; 1]]</pre>
rendering	<pre>start- p > 1 -end</pre>	<pre>start- "p" > 1 -end</pre>	<pre>[[t1demo "p" > 1]]</pre>

The step from HTML to rendering depends on CSS: common and personal CSS files referred to in the HTML code, as well as possibly a CSS file specified in the browser.

Substitution

If a save command is applied to a page containing one or more *titles* starting with `subst:` or `safesubst:`, the wikitext is modified before saving. This substitution process treats all *templates* without `subst:` or `safesubst:` on the page and in directly or indirectly substituted templates as plain text. It also treats all *tplargs* on the page as plain text. The new wikitext is equal to what the expanded wikitext resulting from the wikitext without these occurrences of `subst:` or `safesubst:` would be if the other structures were treated as plain texts. For any substitution to occur there has to be at least one explicit occurrence of `subst:` or `safesubst:` on the page itself. If the substituted *title* is inside another *title* it may construct a text `subst:` or `safesubst:` causing that other title to be substituted too, etc. A text `subst:` or `safesubst:` in a substituted template can also be constructed with a *tplarg* (parameter value or default value).

Examples:

```
{{subst:lc:{{TC}}}} changes to {{tc}}.
```

```
{{subst:urlencode:{{tc}}}} changes to %7B%7Btc%7D%7D.
```

```
{{subst:lc:{{A|B}}}} changes to {{a|b}}.
```

```
{{su{{su{{subst:1x|bs}}t:1x|bs}}t:tc}} changes to {{t1c|...}}.
```

Special:ExpandTemplates can be used as usual to find the parse tree of wikitext containing "subst:" or "safesubst:", but it cannot be used to find the new wikitext. For this, one should use "show changes", or save a test page and press edit to see the result. In Special:ExpandTemplates the *title* starting with "subst:" is treated as an invalid template name, so "{{subst:" and the corresponding "}}" are treated as plain text. Prefixes "safesubst:" are ignored, like when they are in a transcluded page.

If a template contains a *template* call with `subst:`, then if the outer template is transcluded the inner *template* call is not expanded, while if the outer template is substituted the inner *template* call is expanded. This can be used for branching depending on whether the outer template is transcluded or substituted.

Example:

- `{{#if:{{{{|subst:}}ns:0}}|transcluded|substituted}}`

Expansion depth limit

There is an "expansion depth limit" of 40, see [Help:Expansion depth](#).

Internal code for parts in XML-style tags

XML-style tags, e.g. `<nowiki>` tags and `<math>` tags, together with their content, are temporarily replaced by a so-called strip marker, a unique code with a length of ca. 37 characters plus the length of the tag name (independent of the length of the content). If a string operation is applied to it, only fully intact codes in the result are converted back to the original text, the rest is exposed. For example:

```
{{formatnum:<nowiki></nowiki>}}
```

 gives .

See also

- [Help:Newlines and spaces#Automatic newline](#)
- [mw:Preprocessor ABNF](#)
- [mw:Markup spec/EBNF#Includes](#)

1. In the case of a parser function, *title* (function name, colon, and first parameter) should not be confused with just the function name.
2. *Title* is expanded as a single item, therefore the condition in a call of a branching function with not even a then-part is expanded, even though expansion of the function name would be sufficient to conclude that the result is the empty string, regardless of the condition.
3. For some variables there is a strongly related parser function with the same name. Therefore some overviews of variables and/or parser functions do not strictly distinguish between them.

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](#)

(<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource \(https://en.wikisource.org/wiki/Special:Allpages?namespace=12\)](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) · [MediaWiki: Manual \(https://www.mediawiki.org/wiki/Special:Allpages?namespace=100\)](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](#) or from [Meta](#) (<https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Expansion>) · [Wikipedia \(https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Expansion\)](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Expansion) · [MediaWiki \(https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Expansion\)](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Expansion)

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Others

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Help:Template

Languages:

English · (<https://meta.wikimedia.org/w/index.php?title=Help:Template/ar&uselang=ar>) العربية · български (<https://meta.wikimedia.org/w/index.php?title=Help:Template/bg&uselang=bg>) · bosanski (<https://meta.wikimedia.org/w/index.php?title=Help:Template/bs&uselang=bs>) · català (<https://meta.wikimedia.org/w/index.php?title=Help:Template/ca&uselang=ca>) · čeština (<https://meta.wikimedia.org/w/index.php?title=Help:Template/cs&uselang=cs>) · dansk (<https://meta.wikimedia.org/w/index.php?title=Help:Template/da&uselang=da>) · Deutsch (<https://meta.wikimedia.org/w/index.php?title=Help:Template/de&uselang=de>) · español (<https://meta.wikimedia.org/w/index.php?title=Help:Template/es&uselang=es>) · français (<https://meta.wikimedia.org/w/index.php?title=Help:Template/fr&uselang=fr>) · ગુજરાતી (<https://meta.wikimedia.org/w/index.php?title=Help:Template/gu&uselang=gu>) · magyar (<https://meta.wikimedia.org/w/index.php?title=Help:Template/hu&uselang=hu>) · Bahasa Indonesia (<https://meta.wikimedia.org/w/index.php?title=Help:Template/id&uselang=id>) · italiano (<https://meta.wikimedia.org/w/index.php?title=Help:Template/it&uselang=it>) · 日本語 (<https://meta.wikimedia.org/w/index.php?title=Help:Template/ja&uselang=ja>) · Bahasa Melayu (<https://meta.wikimedia.org/w/index.php?title=Help:Template/ms&uselang=ms>) · Bân-lâm-gú (<https://meta.wikimedia.org/w/index.php?title=Help:Template/nan&uselang=nan>) · Nederlands (<https://meta.wikimedia.org/w/index.php?title=Help:Template/nl&uselang=nl>) · norsk (<https://meta.wikimedia.org/w/index.php?title=Help:Template/no&uselang=no>) · português (<https://meta.wikimedia.org/w/index.php?title=Help:Template/pt&uselang=pt>) · русский (<https://meta.wikimedia.org/w/index.php?title=Help:Template/ru&uselang=ru>) · svenska (<https://meta.wikimedia.org/w/index.php?title=Help:Template/sv&uselang=sv>) · українська (<https://meta.wikimedia.org/w/index.php?title=Help:Template/uk&uselang=uk>) · 中文 (<https://meta.wikimedia.org/w/index.php?title=Help:Template/zh&uselang=zh>) · Bân-lâm-gú (<https://meta.wikimedia.org/w/index.php?title=Help:Template/zh-min-nan&uselang=zh-min-nan>)

The contents of one page can be placed onto another page by using a **template**.^[1]

This page and **Help:Advanced templates** are a reference manual on templates in MediaWiki. See also [User:Happy-melon/Templates](#). For an introduction, see *Help:A quick guide to templates* and [mw:Help:Templates](#). For syntax often used within templates, see [Help:Parser function](#), [Help:Extension:ParserFunctions](#) (on MediaWiki.org) and other "Advanced functioning" help pages listed hereafter.

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General

A template is one of the double-brace structures that can be in a page, see also [Help:Expansion](#).

To insert a template on a page, use this format: {{*name of template*}}. For example: {{tc}}.^[2] The contents of the page [Template:Tc](#) is placed on a second page. If the page does not exist, a [red link](#) to the page appears (e.g., [Template:This template does not exist](#)).^[3]

Template namespace

The **template namespace** is the [namespace](#) of pages with prefix "**Template:**".^[4] For example: [Template:Tc](#). The namespace in this example is "Template". The page name is "Template:Tc".^[5]

One way of making a template is typing the tag first, and then following the red link.

One can call a template that calls another template. If a template calls itself directly or indirectly ("recursion"), the second-level inclusion is replaced by a link (possibly a self-link), with the HTML error comment:

Template loop detected:

See also [Repetition within a page](#).

A list of pages embedded in a page (as recorded in the [templatelinks table](#)), with all pages linked, is given at the bottom of the [edit page](#). Notes:

- on a section edit page, the list of templates will not initially display; after pressing [preview](#), only those templates used in that section will list; while on the section preview page, pressing preview again will update the list for the edits made, if any;
- when editing an old version of a page, the list is first given for the current version of the page; after pressing preview, the list will only show the templates that were used in the old version; pressing preview again will update the list for the edits on the old version made in the current session, if any;
- if the name of an embedded page is an expression, the current template name is shown. E.g.:
 - {{abc{{CURRENTDAY}}}}, currently giving **Template:Abc25**, will show [Template:Abc25](#)
 - {{#ifexist:Template:BIB1x}}}}Template does not exist, currently giving **Template does not exist**, will either show [Template:B](#) or [Template:1x](#)

(Supported in version 1.4 and higher.)

In a template name the character "#" and any characters after that are ignored: since gives , gives .

Talk pages

Even if a template is intended for use on talk pages, the template page should not be put in a talk namespace, because there would be no page for discussing it. If it is for general use it is often put as usual in the template namespace, see e.g. w:Wikipedia:Talk page templates and w:Wikipedia:Template messages/User talk namespace. An auxiliary template for personal use for a user talk page can best be put in a subpage of the user page, not one of the user talk page, for example "User:Abc/Talk intro" rather than "User talk:Abc/Intro"; this allows discussion of the template at "User talk:Abc/Talk intro".

Case sensitivity

For the name of a page used as a template, whether in the template namespace or not, the regular rules apply, see Help:Page name. Thus, for a template in the template namespace, the part of the name after "Template:" is case sensitive except (on most wikis) for the first letter, and a blank space is the same as an underscore "_". Case sensitivity can be resolved through the use of redirects. E.g., A template is named "AdminAbbr"; if a redirect to the template is created, and named "Adminabbr", the template can then be called with either or . Assuming the template name or redirect is all in lowercase (or uppercase), if an editor wished to use a mix of uppercase and lowercase on a template name for clarity, they could then use the lc or uc parser functions, e.g., a template named "CURRENTINTERNETTIME" may be difficult to read for some editors, so rather than using the editor could instead use .

However, parameter names are case-sensitive, including the first letter, and spaces are different from underscores.

Use of templates across wikis

A template only works on a page in the same wiki. To use it in another wiki, one has to copy it to there. Bugzilla:1126 requests to lift that restriction, and allow interwiki use of templates.

The adjustments needed in the copy, to work on the other wiki, can be reduced by using , localurl, and generic namespace names, and writing links in a way that works on multiple wikis, e.g. m:Help:Table. For copying multiple templates, export and import can be helpful. It is also convenient if the template names can be the same on the other wiki. Therefore, when choosing template names, check which names are in use on other wikis to which people might want to copy the templates. Note that if a template is referred to by something like abc, a wiki with different namespace names requires a different template name, or a redirect.

Transclusion across wikis, hence changing contents from a central place, is only possible:

- for content in the form of an image on Commons, to any page,
- for editable content on an image page on Commons, including content transcluded from other pages on Commons, to the corresponding local image pages, if there is no local image with the same name

Sometimes multiple wikis require pages which are partly the same and partly different. For example, on some wikis "m:" is used as interwiki link to Meta, and on some wikis "MetaWikipedia:". In this case a common wikitext can be used, calling wiki-specific templates. In the example the wikitext of the page could contain , and we would have on each wiki a Template:Meta containing the required prefix.

Parameters

See also Using parameters in templates

A template can contain parameters by putting a parameter name in three right and left curly brackets .^[6]^[7] The values are specified in the template call.^[8]^[9] Parameters not only allow an editor to substitute unique text on a page, without changing the original template, but they may even control which action the template performs.

A template call can use named parameters and/or unnamed parameters, using one of the following forms (the number of parameters, here two parameters are used, can vary):

- |parname1=parvalue1|parname2=parvalue2}} with tags , , etc. in the template, or
- |parvalue1|parvalue2}} with tags , , etc. in the template, or
- a mix of the two.

The defaults are optional, together with the pipe character "|" in front, see below.

For example:

Example 1

Example 2

The Template:Weather page has the text:

The weather in {{{1}}} is always {{{2}}}.

An editor can then add the template {{Weather}} on several other wikipages.

On the State of Maine page:

```
{{Weather|Maine|cold}}
```

Displays:

The weather in Maine is always cold.

On the State of Florida page:

```
{{Weather|Florida|hot}}
```

Displays:

The weather in Florida is always hot.

On Wikipedia, the {{Further}} template allows users to quickly add further information links.

The template is written as follows:

```
Further information: {{{1}}}[10]
```

The template can be used (called) in the following format:

```
{{Further|[[Article 1]], [[Article 2]], and [[Article Something#3|Article 3]]}}
```

For example, if an editor types in

```
{{Further|[[Cats]], [[Dogs]], and [[Fish]]}}
```

the following appears on the page:

Further information: Cats, Dogs, and Fish

For some technical details see the following footnote.^[11]

Parameter definition with explicit or implicit parameter name

If a parameter name as used in a parameter tag such as {{{3}}} or {{{3|stu}}} is a not too large positive integer, in the template call it can both be referenced explicitly with, as in 3=pqr, or implicitly by putting pqr in the third position among the unnamed parameter definitions.

Comparison between named and implicitly numbered parameters:

- To specify the value of a particular implicitly numbered parameter all previous ones have to be defined too (often the empty string is used as value if the assignment is only for this reason).
- With implicit numbering the call is shorter (except if many extra parameters have to be defined because of what was just mentioned).
- Named parameters can be specified in any order.
- An implicitly numbered parameter can be assigned a value containing "=" only indirectly (see below).
- Spaces and newlines are stripped from the start and end of parameter values of named parameters, but not of implicitly numbered parameters. Therefore the best name for a separator parameter (specifying how items of output are separated) is "1". This has e.g. been done in Template:For. See also Help:Newlines and spaces; also, compare conditional whitespace.
- If an unnamed parameter is unused it does not contribute to the preprocessor node count, while for each unused named parameter the count is 1. This is relevant in data templates containing data in the form of values of parameters of a variable inner template, see Help:Array.

The default (optional, together with the pipe character in front) can be different for every occurrence, and applies if no value is specified when calling the template, not to be confused with the case that the empty value is specified.

To distinguish between a parameter being defined and non-empty on one hand, or undefined or empty on the other hand, use #if: with a blank default:

```
{{ #if: {{{param|}} | param is defined and non-empty | param is undefined or empty}}.
```

To distinguish between defined (and possibly empty) and undefined, use:

```
{{ #ifeq: {{{param|+}} | {{{param|-}} | param is defined | param is undefined }}.
```

Example: named parameter substitution

Let's create a template called **Name-example** (that is, the template will be Template:Name-example), with a parameter for the first name which we will call *firstName*, and a parameter for the last name which we will call *lastName*.

Type the following in the new Template:Name-example:

```
:I am a template example, my first name is ''{{{firstName}}}'' and my last name is ''{{{lastName}}}''.  
:  
:You can reference my page at [[{{{lastName}}}, {{{firstName}}}]].
```

On a second page, type this: {{Name-example}}

The result is:

I am a template example, my first name is {{{firstName}}} and my last name is {{{lastName}}}.

You can reference my page at [[{{{lastName}}}, {{{firstName}}}]].

Because the template has no parameters.

But if we type this on the second page: {{Name-example | firstName=John | lastName=Smith}}

The result will look like this:

I am a template example, my first name is **John** and my last name is **Smith**.
You can reference my page at Smith, John.

To analyse the working, one can apply Special:ExpandTemplates to see the parse tree and the expanded wikitext as intermediate results:

```
:I am a template example, my first name is '''John''' and my last name is '''Smith'''.
:
:You can reference my page at [[Smith, John]].
```

When this wikitext is applied directly the resulting rendering is the same.

Example: numbered parameter substitution

An example of how the contents of a parameter function.

Let us first *define* a template with the name *t1demo*, which will expect a single argument give back the text of that argument, with no spaces before or after it, between "start-" and "-end":

start-{{{1}}}-end

the definition of course being on page Template:t1demo.

Calling the template named *t1demo* with a parameter value of "a", i.e.,

```
{{t1demola}}
```

gives

```
"start-a-end"
```

Calling the template named *t1demo* with a parameter value of " " (a blank space), i.e.,

```
{{t1demol }}
```

Calling the template named *t1demo* with a parameter value of "" (an empty string), i.e.,

```
{{t1demol}}
```

Calling the template named *t1demo* and not passing any parameters, i.e.,

```
{{t1demo}} gives:
"start-{{{1}}}-end".
```

If something like {{{1}}} or in fact any {{{name}}} is visible on an ordinary page it typically indicates that a mandatory parameter of a template used on this page isn't defined.

Parameter names

Parameter names, in contrast to template names, are case-sensitive (*including* first letter) and spaces and underscores are distinguished. The empty string is also a valid parameter name, see Template:T empty string as parameter name.

The names of numeric parameters are compared as strings, not numbers. The parameter *02* is distinguished from the parameter *2*: using Template:t plo containing "{{{1}}}{{{2}}}{{{02}}}", {t plo|5|6|7} gives 56{{{02}}}

Note that parameters in the system messages (MediaWiki namespace) are written differently: as \$1, \$2, etc.

Declaring a default value

Main article: Help:Parameter default.

Let us *define* a template with the name *t* which contains a single numbered parameter 1 with a default of *pqr*. The only difference between the effects of `t` and `t|demo` appears when they are called with no parameter (and no `|`):

start-{{{1|pqr}}}-end

the definition of course being on page **Template:t**, which is:

<includeonly>start-{{{1|pqr}}}-end</includeonly>

1. Calling the template named *t* with a parameter value of *a*, i.e.,

{{t|a}}

gives

"start-a-end".

2. Calling the template named *t* with a parameter value of `" "`, i.e.,

1. {{t| }}

gives

"start- -end".

2. Calling the template named *t* with a parameter value of `" "`, i.e.,

{{t|}}

gives

"start--end".

3. Calling the template named *t* with named parameter **1=**, i.e.,

{{t|1=no surprise}}

gives

"start-no surprise-end".

4. Calling the template named *t* with **1=** after an unnamed parameter, i.e.,

{{t|no|1=surprise}}

gives

"start-surprise-end".

5. Calling the template named *t* with **1=** before an unnamed parameter, i.e.,

{{t|1=no|surprise}}

gives

"start-surprise-end".

6. Calling the template named *t* and no parameter at all, i.e.,

{{t}}

gives

"start-pqr-end".

7. Calling the template named *t* and no named or unnamed parameter **1**, i.e.,

{{t|2=two}}

gives

"start-pqr-end".

Empty vs undefined

The "{{t2demo|| a }}" makes the first parameter equal to the empty string rather than leaving it undefined: it gives "start--middle- a -end", just like "{{t2demo|1=|2= a }}" gives output: "start--middle- a -end". By specifying parameter name "2" explicitly, the first unnamed parameter can be left undefined:

`{{t2demo|2= a }}` gives: start-`{{{1}}}`-middle- a -end

If the second parameter should not be trimmed it has to be unnamed, which means that we can assign the first parameter the empty string, but we cannot leave it undefined.

Making emptiness and undefinedness equivalent

It is often convenient if assigning the empty string to a parameter has the same effect as not assigning any value to it, as the difference is somewhat abstract, and as mentioned, in some cases there is not even the choice. Also, for example "p=" may be put for convenience, to be filled in later, and/or meant to make explicit that the template has a parameter p, but at this time we do not give it a value.

Making emptiness and undefinedness equivalent can for example be achieved by exclusively using `{{{p|}}}`, not `{{{p}}}` and not `{{{p|q}}}` for a non-empty q, or for example using `{{#if:{{{p|}}}|..{{{p}}}|..}}` (i.e., using `{{{p}}}` only in branches of branching functions where it is defined and non-empty).

Restrictions on parameter values

An unnamed parameter can be assigned a value containing an equals sign, but only indirectly.^[12] Methods (here with example using `Template:T1demo`) include:

- Write it as the default of an undefined parameter, as in `{{{ a=b }}}: start- a=b -end`.
- Use `Template:=` containing "=", e.g. " a`{{{=}}`b ": start- a=b -end.
- If it is just for display, the equals sign = can be replaced by the HTML entity `=` or `=`: start- a=b -end.

The same example with "1= a=b " gives start-a=b-end.

Reasons for using an unnamed parameter include:

- Spaces and newlines are stripped from the start and end of parameter values of named parameters (as demonstrated).
- Not disturbing the numbering of following unnamed parameters (alternatively, the parameter definition can be prefixed with an extra "|" (vertical bar symbol, aka: pipe), providing a dummy definition of an unnamed parameter, which is overwritten by the parameter definition concerned).

Any unmatched pairs of two consecutive braces `{{, }}` or brackets `[[,]]` must be placed inside nowiki tags (`<nowiki>...</nowiki>`), or their HTML entity codes must be used: the "{" is `{`, the "}" is `}`, the "[" is `[`, the "]" is `]`. Braces can be used for nested template parameters, nested templates or parser functions while brackets can be used for links. Unmatched pairs not placed in nowiki tags either prevent template expansion or are taken as closing braces for the template call.

For example, using `Template:t1demo` containing "start-`{{{1}}}`-end`<noinclude> [[Category:Demo template]]</noinclude>`":

- `{{t1demo|abc}}def[[ghi]]` gives `{{t1demo|abc}}def[[ghi]]` (the template is not expanded; see also [1] (http://meta.wikimedia.org/w/index.php?title=Help:Template&oldid=794354#Restrictions_on_parameter_values) where this example causes several sections not to be displayed).
- "`{{{t1demo|abc}}def}`" gives "start-abc-enddef}" (the first closing braces are taken as those for the template call).

Without restriction:

- "`{{{t1demo|abc}}def[ghi]}`" gives "start-abc]def[ghi-end".
- [<http://1> `{{t1demo|abc}}def`] gives [start-abc \(http://1\)](http://1)def-end.

A parameter value can be quite long, see [Help:Long parameter demo](#).

A parameter value containing a pipe character

To define a parameter value containing a pipe character (|) which is not part of a template call, parser function call, piped link or image tag, use `Template:!` containing "`|`". The pipe symbol "`|`" can be replaced either with `|` or with `{{{!}}}`, see the difference shown next. Using `Template:t1demo` containing "`start-{{{1}}}-end<noinclude> [[Category:Demo template]]</noinclude>`", compare this "`{{t1demo|a{{{!}}b}}`" giving "start-a|b-end", and this "`{{t1demo|a|b}}`" giving "start-a|b-end" and "`{{t1demo|a|b}}`" giving "start-a-end". The difference between the first and the second is that in the first case the expanded wikitext is start-a|b-end, while in the second case it is start-a|b-end. This is rendered the same in final output but makes a difference when used in table syntax: this requires the "real" pipe character.

Using `Template:2x` containing "`{{{1}}}{ {{1}}}<noinclude> [[Category:Miscellaneous templates|{{{PAGENAME}}}]]</noinclude>`",

```
-----
{{2x|{{{!}}}
{{{!}} A
{{{!}} B
{{{!}}-
{{{!}} C
{{{!}} D
{{{!}}}
}}
```

gives

A B

C D

A B

C D

while

```
{{2x|{&#124;
&#124; A
&#124; B
&#124;-
&#124; C
&#124; D
&#124;}}
}}
```

gives

{| A | B |- | C | D |} {| A | B |- | C | D |}

and

```
{{2x|{|
| A
| B
|-
| C
| D
|}
}}
```

gives

{{

Similar constructs can allow a parameter value to contain a double closing brace. Even a parameter *name* can contain "|" and "}}" in this way, but that seems of little use. However, a pagename cannot contain "|" or a brace.

Mix of named and unnamed parameters

In the case of a mix of named and unnamed parameters in a template tag, the unnamed parameters are numbered 1,2,3,..., so they are *not* numbered according to the position in the mixed list as a whole. For example, {{t sup|foo=1|2|bar=3|4|5|6|7}} using Template:t sup containing "{{{1}}}-{{{2}}}-{{{3}}}<noinclude> [[Category:templates|T sup]]</noinclude>" gives 2-4-5.

However, {{t sup|3=1|2|1=3|4|5|6|7}} gives 3-4-5. The first number shown is '3', because the setting of parameter 1 to the value '2' (by the first unnamed parameter) is overwritten by the later direct assignment of the value '3' to parameter 1. Similarly, the direct assignment of the value '1' to parameter 3 is later overwritten by the third unnamed parameter. See also mw:Module talk:ArgumentPairs demo.

When parameters do not expand

Parameters do not get expanded when they are inside XML-style tags, unless using the parser function #tag. Thus, the following will not work within a template, because the parameter is not expanded:

MediaWiki version: **1.6** (for parameters defaults)

```
<myextension xparam={{tparam}}> ... </myextension>
```

Monitoring parameter usage

To monitor the usage of a parameter of a template (in the case that many pages use the template), this template can call an auxiliary template of which the name depends on whether the parameter is defined. The possible auxiliary templates need not exist, if they are e.g. used as parameter value of Template:Voidd, to avoid displaying anything (with the new preprocessor Template:Void cannot be used for this anymore). Applying "What links here" to the possible auxiliary templates shows which pages use the template with the parameter, and which pages use the template without the parameter. This parameter usage monitor facility should preferably be built into the template when creating the template or introducing a new parameter. If it is done afterwards "What links here" may not show a page until it has been refreshed by an ordinary or dummy edit or purge.

Applications of monitoring parameter usage include:

- check where the parameter has not yet been specified, in order to add it
- check where a parameter is used that is renamed, in order to change the template calls
- check whether a parameter is used before abolishing it
- when a template has been changed with respect to processing a particular parameter, check the pages which use the parameter (or some of them) to see if things work as desired.

In a similar way an auxiliary template can be called for a "template / parameter / parameter value" combination or "template / parameter / parameter value range" combination. "What links here" then shows which pages use the template with this parameter value, or with the parameter in the given range.

See [Template:T optional parameter demo](#).

Similarly a tracking category can be used, see also [Help:Category#Comparison with "What links here"](#).

Template tag lay-out

To have a desired template tag lay-out, especially in the case of many parameters, additional dummy parameters can be used with a newline, spaces, and/or comments. In the case of unnamed parameters, this means that some parameter numbers are not used in the template content, so that their values, present in the template tag, do not affect the rendering of the template. For example, using [Template:t3d](#) containing "{{{1}}} {{{2}}}
{{{3}}}
 {{{5}}} {{{6}}} {{{7}}}
 {{{9}}} {{{10}}} {{{11}}}",

```

{{{t3d | a|b|c| 1
      | d|e|f| 2
      | g|h|i| 3
}}}
```

gives:

a b c
d e f
g h i

If parameters are named, dummy parameters can easily be inserted at any time. If they are unnamed, then, to avoid renumbering, one can insert named parameters: any text including an equals sign will do, if the text on the left is not one of the parameter numbers: this text is interpreted as the name of an unused parameter, hence ignored.

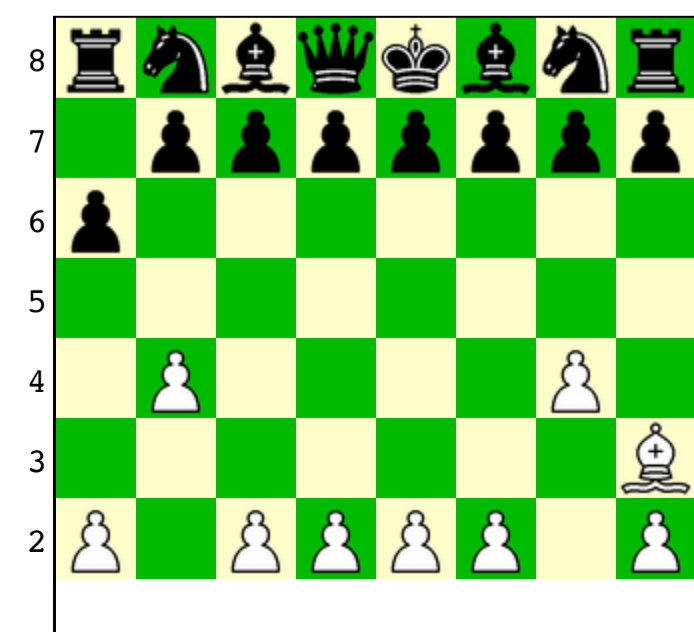
Example:

Using [template:Chess position](#) ([talk edit \(https://meta.wikimedia.org/w/index.php?title=Template:Chess_position&action=edit\)](https://meta.wikimedia.org/w/index.php?title=Template:Chess_position&action=edit) [history \(https://meta.wikimedia.org/w/index.php?title=Template:Chess_position&action=history\)](https://meta.wikimedia.org/w/index.php?title=Template:Chess_position&action=history) [links \(https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:Chess_position&limit=1000\)](https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:Chess_position&limit=1000))

```

{{{chess position|=
8 | rd|nd|bd|qd|kd|bd|nd|rd|=
7 |   |pd|pd|pd|pd|pd|pd|=
6 |pd|   |   |   |   |   |   |=
5 |   |   |   |   |   |   |   |=
4 |   |p1|   |   |   |p1|   |=
3 |   |   |   |   |   |   |b1|=
2 |p1|   |p1|p1|p1|p1|   |p1|=
1 |r1|n1|b1|q1|k1|   |n1|r1|=
  a b c d e f g h
|30}}
```

which gives



With `noinclude` an informative template page can be produced, containing more demos and test cases than just the single default set. Typically, the `noinclude`-part of a template page contains examples including or substituting the template. Changes in the working of the template (i.e. changes outside the `noinclude`-part) are not yet effective in these examples in preview and, in the case of substitution, in "show changes". However, they are reflected in the rendered page after saving.

Some formatting aspects may show up which are not readily seen from the edit box.

A parameter value depending on parameters

If a parameter is left undefined, the triple braced parameter name in the result does not function as a parameter if the page is called as a template from another page; if it should, do not omit the parameter value but specify it in terms of a parameter of the calling page; compare:

- `{{t2ademolb}}` (using `Template:t2ademo` containing `{{t2demola}}`) gives start-a-middle-{{{2}}}-end
- `{{t2a1lb}}` (using `Template:t2a1` containing `{{t2demola{{{1}}}}`) gives start-a-middle-b-end.
- Similarly, `{{t2a2lb}}` (using `Template:t2a2` containing `{{t2demola2={{{1}}}}`) gives start-a-middle-b-end. See also below.

The most straightforward way of expressing a parameter value in terms of a parameter is using the same name and making it equal, e.g. `{{Lan|lr=af|le={{le}}}}` in `Template:Lan is mr`.

To preserve possible undefinedness of parameter *p* one can put:

```
p{{#ifeq:{{{p|+}}|{{{p|-}}}|dummy}}={{p}}
```

Note however that when applied to a numbered parameter it becomes named, hence spaces and newlines at the start and end of its value are not preserved.

See also `Template:T ptd1`,

msgnw

The prefix **msgnw** (short for "message, nowiki") is used to display within a page the wikitext of another page, with comments removed.

For the example `Template:Msgnw demo`:

"`{{#tag:pre|{{msgnw:Msgnw demo}}}}`" gives "

```
<!--Msgnw demo-->
<includeonly>*abc '''def''' '''ghi''' &le;
*[[jkl]] {{t1demo|p}} [[{{tc}}]] {{#expr:2*3}} {{CURRENTTIME}} {{{p|q}}}
#a
#b
: jkl
:mno
</includeonly><noinclude>{{doc}}</noinclude>
```

" [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23tag%3Apre%7C%7B%7Bmsgnw%3AMsgnw+demo%7D%7D%7D%7D%22&removecomments=true>)

Note that with `ExpandTemplates` (see the link) "Remove comments" should be on to get the real result, otherwise it shows also the comment `<!--Msgnw demo-->`.

In the expanded wikitext, as seen with `ExpandTemplates`, the characters `<>'[]{|&` are replaced by codes.

This function has been used for displaying the wikitext of a template which is active on inclusion. However, with the introduction of `noinclude` tags, `msgnw` displays a mix of that with wikitext for rendering the template page itself, with these and `includeonly` tags. An advantage of using `{{doc}}` is that if one would want to show the included part of the wikitext, the cluttering remainder of the wikitext is minimized.

Compare:

```
<code>{{#tag:pre|{{msgnw demo}}}</code> gives
```

```
*abc '''def''' '''ghi''' ≤
*[[jkl]] start-p-end [[<span class="nowrap"><code>{{tlc|...}}</code></span>]] 6 11:01 q
#a
#b
: jkl
:mno
```

Differences:

- shows the included part only
- shows the expanded wikitext

There does not seem to be an automatic way to show the included wikitext. It requires copying that and putting it between `<pre>` tags (if it has multiple lines) or `<nowiki>` tags (if it is on one line, to get it inline).

Usage

A template is useful for any text for which one wants a copy in two or more pages, and there is no need for each copy to be edited independently to adapt it to the page it is in. Since parameters can be used, versions may to that extent even be different, and parameter values can be edited independently for each. Templates are not only convenient, they can also prevent the server doing duplicate work in the expansion of a page by reusing a parameter value that is expanded only once (like assigning a result to a variable or a dynamically valued constant in a computer program, and making multiple use of it); also they can "force" a useful uniformity. See also Subroutine#advantages of subprograms.

A template can also provide structure (e.g. a table structure, colors, and other formatting) while the content varies (fully or partly) through parameters and variables.

A template can also carry out computations, comparisons, etc. using ParserFunctions, where the result(s) vary again through parameters and variables. See e.g. m:Category:Mathematical templates.

Typical applications are:

- template messages such as w:en:Template:stub
- Navigational templates such as w:en:Template:europa, sometimes listed in a directory such as w:Wikipedia:navigational templates
- infoboxes, each time showing the same kind of information in the same format, but each time for a different case, using parameters, e.g. the w:en:Template:Infobox Countries.
- provide cross-language portability of texts which are largely internationally the same, but contain some standard terms different in each language; the standard terms are replaced by `{{..}}` referring to template pages which have the same name but localised content in each language. This is applied in Wiktionaries for names of languages, terms like "noun", etc.; it is also applied for taxoboxes, see e.g. w:en:Template:Familia and w:fr:Modèle:Familia.
- allow a composite image, composed of a table of images, to be specified by a template tag which itself has a corresponding table-like lay-out, see w:Template:Chess position and w:Template:Game of Go Position (the latter example also shows that the number of parameters a template can have is quite large, in this case 362). Newlines in parameter values provide the lay-out of the template tag, but they are not allowed in image names, therefore they are put within comment tags; alternatively, dummy parameters could be used on these positions.

Various combinations are possible. E.g., the last two could be combined, so that e.g. every language version of Wikipedia has the same Infobox Countries template (for each wiki a copy, because the template mechanism can not import across wikis), which has parameters for the data, and refers to templates with translations of standard terms.

See also **Help:Advanced templates**.

Composite pages

The wikitext of a page may (partly or fully) consist of tags for the inclusion of component pages. The "templates" are not necessarily in the template namespace, and may be more or less self-contained pages by themselves. A disadvantage of putting the components in the template namespace is that the component page may, by itself, be of a nature that it belongs in e.g. the main namespace, while the prefix would suggest otherwise; also the prefix would clutter the pagename.

Examples are:

- m:Help:A simple composite example
- w:Wikipedia:Village pump with six component pages, e.g. w:Wikipedia:Village pump (technical)
- daily a page like w:en:Wikipedia:Votes for deletion/Log/2005 May 31 where each component page consists of the discussion on the deletion of one Wikipedia page, e.g. w:en:Wikipedia:Votes for deletion/Sp3tt (for this day there are 75 of such component pages)
- m:Meta:Translation/Coordination, mainly containing
 - m:Meta:Translation/Coordination/List/Meta
 - m:Meta:Translation/Coordination/List/Main
- [4] (http://en.wikipedia.org/w/index.php?title=2005_English_cricket_season_%281-14_June%29&diff=27917447&oldid=27330886) - rejection of composite page by w:en

This allows the user the choice between viewing the component pages separately or combinedly. One may want to view a page separately if one has a slow connection; also sometimes people have sentimental reasons for having a separate page about a topic, e.g. a village. Viewing the combined page is much more convenient if there are many small component pages; even if a subtopic page does not provide additional info, if it exists anyway, and is linked to, it is useful to display the content (making clear that the whole content is shown), it saves the trouble of checking the contents by following the link.

In the latter case the search function of the browser can be used for searching in the combined page. Similar to the section editing feature, it allows editing a component page; however, there is no possibility to have the combined wikitext in the edit box.

Edit history, recent changes, watching pages, and "what links here" work separately for the component pages and the *composition* page, not for the *composite* page. Related changes works for the component pages and for the composite page. Page protection can be set for selected component pages and for the composition page, not directly for the composite page.

The talk page of a composition page is used to talk about the composition and the page in general, and could in addition be a composite page of the talk pages of the component pages.

A composite page has an integrated TOC and section numbering; the numbering is not reset for each component page.

Editing a section of a component page can be done directly from the composite page, see [editing sections of included templates](#). After saving, one ends up at the page for the component page to which the section belongs.

On wikis with the [interlanguage link feature](#) the composite page shows the combined interlanguage links of all component pages, hence possibly multiple links for one language or even for one page.

For easy access to the component pages, links to them on the composite page (for example by self-links on the component pages) are convenient. Alternatively, access is through section editing, or, if the component pages are in the template namespace, through the list of templates called from the composite page, at its edit page.

Conversely, for easy access from a component page to the composite page(s) that call(s) it (if there are not too many of them) it is convenient to link the component page to them (on a composite page one becomes a self-link).

See also [w:Wikipedia talk:Template namespace#transcluding prose](#).

Pages with a common section

A section on the relationship of the subjects A and B, or a subtopic equally relevant for A as for B, can be put both in page A and in page B, by making it a separate page C, called as a template from A and B.

Remarks:

- For readers reading both A and B, it is useful that the duplication be indicated by a message or a special lay-out; otherwise it is confusing and inconvenient. One can for example use [Template:Common section](#).
- After saving one ends up viewing the template page. For easy access to the calling pages it is convenient to link the called page to them (on a calling page one becomes a self-link). This may well be integrated in the message about the duplication. It is even more convenient than the two-step link as shown above.
- The section level of the embedded section(s) has to be the same in each embedding page. The same applies to lay-out and style.
- Pages like C can be put in
 - the same namespace as A and B; advantage:
 - the kind of content of C is the same as that of A and B
 - the template namespace; advantages:
 - C appears in the list of templates called from A and B, at their edit pages
 - C by itself may not satisfy the standards for pages in the namespace of A and B, such as providing context (however, the message about the duplication explains it)

Examples:

- [Help:Editing sections of included templates](#) (talk, [backlinks](#), [edit \(https://meta.wikimedia.org/wiki/Help:editing_sections_of_included_templates?action=edit\)](https://meta.wikimedia.org/wiki/Help:editing_sections_of_included_templates?action=edit))
- [Help:Alphabetic order](#) (talk, [backlinks](#), [edit \(https://meta.wikimedia.org/wiki/Help:alphabetic_order?action=edit\)](https://meta.wikimedia.org/wiki/Help:alphabetic_order?action=edit))

For various remarks which also apply here, see also the previous section.

Repetition within a page

For a succession of similar pieces of content, as in a list, a computer program would use a [loop](#). What comes closest in MediaWiki is putting the loop body in a template, and calling the template repeatedly, usually with a varying parameter value. This is somewhat primitive for a loop:

- instead of "for i=1 to 5" we need to enumerate the values 1, 2, 3, 4, 5; on the other hand, this gives the versatility to use just as easily less regular values such as de, en, fr ([collection-controlled loop](#)).
- repetition of code is minimized by the template, but the template call itself has to be repeated each time (but see also the next section)

Example:

- [Template:List of Languages](#) - the "loop body" is in [Template:Lang def](#); compared with putting the content of the latter directly in the list the [advantage](#) is that the variable part (the value of "code") occurs once each time in the code, although it is used twice. This is important because the fixed part of the list item code can be copied while the variable part is typically inserted manually.

The list of template calls can be in another template, with the name of the called template equal to or depending on a parameter, see e.g. Template:Do for every Dutch municipality.

For repetition of the same text the loop body can be a parameter, e.g. Template:5x.

A double loop is achieved by a second template that repeatedly calls the first. Similarly for a triple loop, etc. See e.g. w:Template:Ld, w:Template:L2d, and w:Template:L3d.

An example where copies of the same template are used for different loop levels is Template:Loop 2 (formerly a redirect could be used for each level, but that gives the error message "Template loop detected" now). The number of levels that the template can handle is determined by the number of parameters specified in the two template calls it comprises (because going up a level requires an extra parameter) and the number of existing copies.

Similarly Template:Lanlp 1 is used for both the inner and the outer of a double loop. Adding an item (here a language) adds to each row and also adds an extra row.

Providing effective repetition without repetition of similar template calls in the wikitext

A technique for repetition of similar template calls without actually putting this list in the wikitext is demonstrated in template:for (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:For&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:For&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:for&limit=1000)), and a more primitive method described below.

Example (using Template:t2demo containing " <!--t2-->start-{{{1}}}-middle-{{{2}}}-end<noinclude>[[Category:Demo template]]</noinclude> "):

{{{for loop|; |call=t2demo|pc1n=2|pc1v=constant|abc|def|ghi}} gives:

start-abc-middle-constant-end; start-def-middle-constant-end; start-ghi-middle-constant-end

Page counts

Templates can prevent the server doing duplicate work in the expansion of a page by reusing a parameter value that is expanded only once (like assigning a result to a variable in a computer program).

Example: "
{{{Population Dutch municipality by code|193}}}" → "118943" [5] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BPopulation+Dutch+municipality+by+code%7c193%7D%7D%22&removecomments=true) with preprocessor node count 871/1000000^[13], post-expand include size 12/2048000 bytes, and template argument size 3/2048000 bytes (for these page counts^[14] see w:wp:Template limits). Thus mainly the preprocessor node count is a concern (especially on a page with many of these high counts): a switch is used, therefore 2 is added for each case. This municipality is the last of the 430 in the list.

Rounding the number to three significant digits requires a parameter of the round operator that is computed from the number:

{{#expr:{{{Population Dutch municipality by code|193}}}round(2-floor(ln{{{Population Dutch municipality by code|193}}/ln10)))} gives 119000, with a preprocessor node count of 1743^[13]/ 1000000, a post-expand include size of 30, and a template argument size of 6. Thus the preprocessor node count is doubled, plus 1 for #expr.

Better is to use Template:Sigdig, because now the high count for the switch is not doubled:

{{sigdig|{{{Population Dutch municipality by code|193}}}|3}} gives 119000 with a preprocessor node count of 879, a post-expand include size of 24, and a template argument size of 16.

See also Help:Expansion#Efficiency.

Ambiguity of a reference to "this page"

If a page is included in another page, a reference to "this page" on the included page is ambiguous. Use noinclude or includeonly tags depending on what is meant. Alternatively, mention the page name explicitly, without using
{{{PAGENAME}}}.

Internal links

In the case of an internal link in a template with the target depending on a parameter, and in the case of a link with the target depending on a template, existence detection works as usual.

Examples:

- {{t|ilinsert in target|insert in label}} (using Template:tli containing " [[a{{{1}}}blc{{{2}}}]d]] ") gives
c|insert in labeld
- [[a{{{tciit}}}blc{{{tciil}}}]d]] (using Template:tciit containing "insert in target" and Template:tciil containing "Insert in label") gives
c|insert in labeld

- {{tllinsert also in targetinsert in label}} (using Template:tli) gives insert in labeld (**Nepali**)
- [[a{{tciit}}elc{{tciil}}d]] (using Template:tciit and Template:tciil) gives clinsert in labeld (**Nepali**)
- {{!alHelp:Tablltab}} (using Template:la containing " <!--

-->{{#ifexist: {{{1|Article}}} <s>| |}}<!-- -->[[{{ucfirst:{{{1|Article}}}}]]<!-- -->{{#ifexist: {{{1|Article}}} </s> | |}}<!-- --> ([[{{fullurl:{{ucfirst:{{{1|Article}}}}}|action=edit}} edit] · [[{{TALKPAGENAME:{{ucfirst:{{{1|Article}}}}}}|talk]] · [[{{fullurl:{{ucfirst:{{{1|Article}}}}}|action=history}} history] · [[{{fullurl:Special:Whatlinkshere/{{ucfirst:{{{1|Article}}}}|limit=999}} links] · [[{{fullurl:{{ucfirst:{{{1|Article}}}}}|action=watch}} watch] · [[{{fullurl:Special:Log|page={{urlencode:{{ucfirst:{{{1|Article}}}}}}}} logs] · [[{{fullurl:{{ucfirst:{{{1|Article}}}}}|action=delete}} delete]) {{#ifexist: {{{1|Article}}} '''Deleted!''' | |}}
") gives: Help:Tabl (edit (https://meta.wikimedia.org/w/index.php?title=Help:Tabl&action=edit) · talk · history (https://meta.wikimedia.org/w/index.php?title=Help:Tabl&action=history) · links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/Help:Tabl&limit=999) · watch (https://meta.wikimedia.org/w/index.php?title=Help:Tabl&action=watch) · logs (https://meta.wikimedia.org/w/index.php?title=Special:Log&page=Help%3ATabl) · delete (https://meta.wikimedia.org/w/index.php?title=Help:Tabl&action=delete))

- Template:Pvn

Noinclude, includeonly, and onlyinclude

This feature is not available before version 1.6. These features are applied as nesting pairs, or 'Blocks', as it is said they enclose the material so that they can be said to begin and end a block of wikitext (code).

noinclude blocks

Anything between <noinclude> and </noinclude> will be processed and displayed only when the page is being viewed directly; it will not be included or substituted. Possible applications are:

- Categorising templates, see template documentation.
- Interlanguage links to similar templates in other languages.
- Pages in the MediaWiki namespace.

includeonly blocks

The converse is <includeonly>. Text between <includeonly> and </includeonly> will be processed and displayed only when the page is being included. Applications include:

- Adding all pages containing a given template to a category, but not the template itself.
- Avoiding messy rendering on the template page, e.g. {{#expr:{{{1}}}} gives **Expression error: Unrecognized punctuation character "{"**. [6] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A%7B%7B%7B%7B%7D%7D%7D%7D%7D%22).

Note that spaces and newlines between the general content and the tagged part belong to the general content. If they are not desired the include tag should directly follow the content on the same line:

```
<noinclude>this is </noinclude>fine<includeonly>, closing tags are
</includeonly><noinclude>
less critical, but must be specified.</noinclude>
```

nesting

Nesting an includeonly block within a noinclude block (or vice-versa) is legal but pointless.

onlyinclude blocks

With <onlyinclude>*wikitext* </onlyinclude> on a page, the display of the *wikitext* so surrounded and the rest of the page (except includeonly parts) is rendered on the page itself normally (note: this means interwiki translation links will behave as normal external links, unless they are further bracketed by <includeonly>). The demo page below holds a full screenful of text and code, including several *includeonly* blocks as well as a single *onlyinclude* block as a demonstration. It is advisable to look at that page in edit mode (http://meta.wikimedia.org/w/index.php?title=Help:Template/onlyinclude_demo&action=edit).

However, in transclusion, the page gives *only the parts* within **onlyinclude blocks**. Using the test line:

```
Using [[Help:Template/onlyinclude demo]],
<nowiki>{{Help:Template/onlyinclude demo}}</nowiki>
gives '''{{Help:Template/onlyinclude demo}}'''.

```

When repeated below we get: *Using Help:Template/onlyinclude demo, {{Help:Template/onlyinclude demo}} gives **def***. When that page is included, it does not even transclude other blocks which are defined as includeonly parts, *unless such are also within the onlyinclude block*. So on a page with onlyinclude tags, text within includeonly tags is never rendered, i.e., it is reduced to wikitext comment. See also Help:Template/onlyinclude demo 2 and

its talk page.

Caveats on splitting and interworkings

Attempts to nest split pairs of these tags, or the similar <nowiki> and </nowiki> pair, won't work as expected.

If say <nowiki> begins within the general page content, or in a "noinclude" part, or in an "includeonly" part, then *it also has to be closed within the same part*.

The code <includeonly></includeonly>-- will be displayed as --- when the template is not included, ---- when the template is included, but it will *only be expanded* as the active user when the template is subst'd, which is to say when it has been joined within the same block once again.

Substitution

Main article: [Help:Substitution](#)

Putting "subst:" after the double opening braces causes an [automatic conversion of wikitext](#) when the referring page is saved: the subst tag is replaced by the wikitext of the template, with the parameter values substituted for the parameters.

For optional [multi-level substitution](#) of templates add a substitution parameter with the empty string as default, e.g. {{substp|}}, after the opening braces in all calls of templates, parser functions and variables in templates, and add parameter definitions of the form "substq={{substr|}}" in all template calls within templates. Note that the use of multiple substitution parameters allows selective substitution. Maximum flexibility is obtained by making them all different. Sometimes a little less flexibility is needed; e.g. there may be a group of parser functions in a template for which it is sufficient to be able to choose between substitution of all or none in the group.

To reduce, in the wikitext, undefined parameters with default to the defaults themselves, use the [alternative way of specifying a parameter default](#).

Redirection

When a page called for inclusion is a redirect page, the redirect target is included instead. As usual, a double redirect or broken redirect does not work.

A page that consists of nothing else than the inclusion of another page as a template, shows similarities to a redirect to that other page, but also many differences, including:

- the result has as header the name of the referring page
- there is no redirect message
- the buttons such as edit (for editing the whole page), watch, talk, history, "what links here", and "last modified", etc., refer to the referring page (to go to the target page, a section edit link can be used, from there the whole page can be accessed)
- the referring page is in the same categories as the target page, except when includeonly and/or noinclude tags are used
- "double redirects", with one or both being this kind of "pseudo-redirect", work.

Compare [Help:Template namespace](#) with [Help:Template namespace - demo of alternative for redirect](#).

In a page that in turn includes such a referring page there is no difference.

Note that embedding works for all pages where [redirecting](#) works, and it also fails for all pages where a redirect won't work.

Self-transclusion

A page can transclude itself, but is protected against an infinite loop: the transclusion in the transcluded copy of the template is replaced by the bolded pagename. See [Help:Self-transclusion demo](#) ([talk](#), [backlinks](#), [edit](#) (https://meta.wikimedia.org/wiki/Help:self-transclusion_demo?action=edit)) and [Help:Self-transclusion demo 2](#) ([talk](#), [backlinks](#), [edit](#) (https://meta.wikimedia.org/wiki/Help:self-transclusion_demo_2?action=edit)).

Transcluding on page A page B redirecting to page A does not allow more repetition anymore, see [Help:Self-transclusion demo with redirect](#) ([talk](#), [backlinks](#), [edit](#) (https://meta.wikimedia.org/wiki/Help:self-transclusion_demo_with_redirect?action=edit)) with [Help:Self-transclusion demo redirect](#) ([talk](#), [backlinks](#), [edit](#) (https://meta.wikimedia.org/wiki/Help:self-transclusion_demo_redirect?action=edit)).

If due to the use of braces hidden in a template (see [Help:Recursive conversion of wikitext](#)) the saved wikitext of a page contains a substitution call to itself, then on the next save the substitution is applied for one level; the transclusion in the transcluded copy of the template is replaced by a link to the pagename. Thus it becomes a [self link](#), i.e., it becomes bolded text with immediately following characters also bolded. This time the link is followed in the wikitext by the hidden message "<!-- WARNING: template loop detected -->"; see [\[7\]](#) (http://meta.wikimedia.org/w/index.php?title=Help:Self-transclusion_demo&diff=570227&oldid=570225); this edit was automatic by edit/save without making a change in the wikitext oneself.

Parsing braces

If some braces are "hidden" in a template, as in template:lb (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Lb&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Lb&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:lb&limit=1000)), then parsing of pairs of double and triple braces is based on visible braces only. In the case of partial substitution, first parsing is done for the purpose of substitution, then parsing is done again for rendering:

- {{t1|{{lb}}tc}}) gives start- tc-end - the last-but-one pair of closing braces is taken as closing braces of template:t1 (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:T1&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:T1&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:t1&limit=1000))
- {{t1|{{subst:lb}}tc}}) gives the wikitext {{t1|{{tc}} rendered as start- { { t 1 c | . . . } }-end - after substitution the last pair of closing braces is taken as closing braces of t1
- {{subst:t1|{{subst:lb}}tc}}) gives the wikitext start tc-end rendered as start Template:Tc-end - the last-but-one pair of closing braces is taken as closing braces of t1 for both substitutions
- {{subst:subst}}t1|a}}, substituting template:subst (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Subst&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Subst&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:subst&limit=1000)), gives the wikitext {{subst:t1|a}} rendered the same; in the next edit the wikitext is converted to "startaend".
- {{subst:tsubst 1|a}}, substituting template:tsubst 1 (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:Tsubst_1&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:Tsubst_1&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:tsubst_1&limit=1000)): ditto.

With parser function #if instead of template:t1:

- {{#if:xl{{lb}}t1|a}}|b}} gives {{t1|b}} - the last-but-one pair of closing braces is taken as closing braces of #if.
- {{#if:xl{{subst:lb}}t1|a}}|b}} gives the wikitext {{#if:xl{{t1|a}}|b}} rendered as start-a-end - after substitution the last pair of closing braces is taken as closing braces of #if.
- {{subst:#if:xl{{subst:lb}}t1|a}}|b}} gives the wikitext {{t1|b}} rendered as start-b-end - the last-but-one pair of closing braces is taken as closing braces of #if for both substitutions.
- {{subst:#if:xl{{subst:subst}}t1|a}}|b}} gives the wikitext "{{subst:t1|b}}" rendered the same: "{{subst:t1|b}}" (the substitution phase is finished; the ordinary template expansion phase ignores substitution calls); in the next edit the wikitext is converted to "startbend".
- {{subst:#if:xl{{subst:#if:xl{{subst:subst}}t1|a}}|b}}|c}} gives the wikitext "{{subst:t1|c}}" rendered the same: "{{subst:t1|c}}".
- {{subst:#if:xl{{subst:tsubst 1|a}}|b}} gives the wikitext "startaend". Apparently there is a substitution phase of parameter expansion resulting in the parameter value "{{subst:t1|a}}", and another substitution phase for the substitution of #if, taking the parameter value not as plain text, but interpreting the "subst:" in it again.

See also Help:Recursive conversion of wikitext.

Predefined templates

Variables and parser functions can be considered predefined templates. They do not have a page that defines in terms of wikitext what they do, because their action is something extra that cannot be constructed from more basic wikitext functionality.

Some additional differences:

- Parser functions use ":" instead of the first "|".
- An edit page does not list predefined templates used on the page.
- No "What links here" is available for predefined templates, to find the pages where they are used.
- Apart from #switch, predefined templates don't allow you to define named parameters, and therefore equal signs generally have no special effect, comparison:

```
 {{ #if: not blank | 2=abc }} gives 2=abc
 {{ ifdef | not blank | 2=abc }} gives abc
```

Ordinary and predefined templates have in common that their parameter values can depend on ordinary and predefined templates. In the case of named parameters, the names used in the template call can also depend on ordinary and predefined templates. This applies also for the named parameters of #switch. Since everything before the first pipe can depend on ordinary and predefined templates, a difference is that in the case of a parser function this applies to the whole combination of name, colon, and first parameter: {{#exp{{1x|r:}}2*3}} gives 6, while {{t1{{!}}a}} gives {{t1|a}}. Another difference is that a blank space is allowed between the template name and the first pipe, but not between the parser function name and the colon: {{t1 |a}} gives start-a-end, while {{#expr:2*3}} gives 6.

Template expansion

Expansion of wikitext can be relevant even if the wikitext resulting from these subevaluations cannot have effect on the overall wikitext, because the expansion can have side effects:

- Subevaluations producing links add on the target page to the list of incoming links (What links here), based on the pagelinks table, even if there is no link on the resulting page.
- Subevaluations involving template calls add on the template page in "What links here" and on the edit page of the page concerned to inclusion items, based on the templatelinks table.
- Some extensions may perform some action during a subevaluation, e.g. with VariablesExtension a subevaluation may involve assignment of a value to a variable.

In the case of #ifexpr etc., either the then-part or the else-part is expanded, not both. Also the wikitext for the value of an unused template parameter is not expanded.

Template argument size

On Wikimedia wikis the maximum template argument size is 2_048_000 bytes per page.

Example:

{{5x|{{4x|abc}}}} has a template argument size of 72 bytes: the argument abcabcabcabc is counted 5 times, the argument abc 4 times.

See also w:Wikipedia:Template limits.

Templates in different versions of MediaWiki

See also:

- mw:Release notes
- The revision history of mw:MediaWiki roadmap.

Version 1.6, 2006-04-05

- The parameter default mechanism was added, see mw:Release notes/1.6#What's new in 1.6.
- <noinclude> and <includeonly> were added.

Version 1.4, end 2004

Including the same template more than five times in the same page (see bugzilla:95) works from version 1.4, now on all Wikimedia sites. Also new was that subst can be used with parameters.

See release notes (http://sourceforge.net/project/shownotes.php?release_id=404869&group_id=34373) and [8] (http://meta.wikimedia.org/w/index.php?title=Help:Template&diff=55944&oldid=55873) [9] (http://meta.wikimedia.org/w/index.php?title=Help:Template&diff=83995&oldid=83637).

Version 1.3.4, 2004-09-28

- Fixed lots of template-related bugs, esp. for cases where template variables are used for links, images, etc. Also a template name can now depend on the value of a parameter.[10] (http://meta.wikimedia.org/w/index.php?title=Help:Template&diff=53972&oldid=53966) [11] (http://meta.wikimedia.org/w/index.php?title=Help:Template&diff=62837&oldid=62836)
- Fixed broken edit links being shown for sections from included templates

See release notes (http://sourceforge.net/project/shownotes.php?group_id=34373&release_id=368101).

Version 1.3.0, 2004-08-11

Introduction of template parameters. Introduction of the Template namespace. The prefix "msg:" became optional. See release notes (http://sourceforge.net/project/shownotes.php?group_id=34373&release_id=259965) and MediaWiki roadmap (http://www.mediawiki.org/w/index.php?title=MediaWiki_roadmap&oldid=52698#Template_syntax).

Version 1.1.0, 2003-12-08

Templates without parameters were introduced along with the introduction of user-editable interface messages. They shared the new MediaWiki namespace. A page MediaWiki:mytemplate was referred to with {{msg:mytemplate}}. See release notes (http://sourceforge.net/project/shownotes.php?release_id=240784) and description and usage on the English Wikipedia (http://en.wikipedia.org/w/index.php?title=Wikipedia:Template_messages&oldid=3846084).

History

When ParserFunctions were not available yet, multiple assignments of parameters with the same name (and thus allowing parameter overrides) were ingeniously used to perform branching, e.g. in the now deleted en:Template:If defined.

Revision history of pages containing templates

Pages in the stored [page history](#) consist of wikitext with possible *references* to templates and images. When viewing an old version of a page, these refer to the current versions of the templates and images, if these still exist. Thus the former composite page is not reconstructed.

Other pages not primarily meant for direct viewing

Pages not primarily meant for direct viewing include, apart from templates:

- multilingual portal pages, see [www](#)
- CSS and JS pages, see [Help:User style](#)
- pages in the MediaWiki namespace, see [Help:System message](#)
- [w:Wikipedia:Book sources](#), used by [w:Special:Booksources](#)
- [m:Spam blacklist](#)

Labeled section transclusion

Section transclusion requires [Extension:Labeled Section Transclusion](#).

It allows transclusion of a section of a page, where "section" is not necessarily a section in the sense of [Help:Section](#), it can be any marked part of a page, even a non-contiguous part, and sections can overlap. It allows content that is reused to reside on some master page instead of in a separate template (with that content only, or a collection of that kind of content). For example, a population figure of a town can be in the wikitext of the town page, and be reused elsewhere in a table of towns, or conversely.

This provides integrated editing and an integrated edit history of the combination of specific and reused content on the master page. Note however that not having a separate edit history of a piece of reused content can also be a disadvantage.

Example of transclusion from [Help:Advanced templates](#):

```
"{{#lst:Help:Advanced templates|vartemp}}" → "In some cases, it may be useful for a template to call different templates depending on a variable or a passed parameter. This allows a type of branching that can be simpler than with ParserFunctions, though they are generally less versatile." [12] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23lst%3AHelp%3AAdvanced+templates%7cvartemp%7D%7D%22&removecomments=true)
```

Example of transclusion from the page itself:

```
p=<section begin=p/>12<section end=p/>, p<sup>2</sup>={{#expr:{{#lst:Help:Template|p}}^2}} gives p=12, p2=144.
```

Section tags have to be explicit in the plain wikitext, not just in the [expanded wikitext](#), and not in a parameter:

Using [Template:2x](#), `{{2x|1=<section begin=a/>a<section end=a/>}}` gives aa. However, `"{{#lst:Help:Template|a}}"` → `""` [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23lst%3AHelp%3ATemplate%7ca%7D%7D%22&removecomments=true>), so neither the expanded wikitext effectively contains the section tags, nor does the parameter value `<section begin=a/>a<section end=a/>` directly define a section.

However, `{{subst:2x|1=<section begin=b/>b<section end=b/>}}` produces the expected wikitext `<section begin=b/>b<section end=b/><section begin=b/>b<section end=b/>` rendered as bb, so `"{{#lst:Help:Template|b}}"` → `"bb"` [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23lst%3AHelp%3ATemplate%7cb%7D%7D%22&removecomments=true>).

Also, the section tags do not work if they are between `<math>` tags. However, they can be between span tags, so the section content can be hidden. For example:

```
<span style="display:none"><section begin=q/>12<section end=q/></span>{{#tag:math|q={{#lst:Help:Template|q}}, q^2={{#expr:{{#lst:Help:Template|q}}^2}}} gives q = 12, q2 = 144
```

For some more examples see [Help:Array#Labeled section transclusion](#).

Alternatives

An alternative that does not require the extension puts the sections (pieces of content) to be reused inside `<onlyinclude>` tags, or the rest is put in `<noinclude>` tags. `{{#ifeq:{{{1}}}|k|k'th section}}` can be used to select a section. Another method, which was for some time used in [s:Bible \(King James\)/Philemon](#), makes each section the default value of a parameter; this allows selection of one or more sections by giving the parameters other than the corresponding ones the empty string as value. Thus the excluded sections have to be specified; to avoid making it cumbersome to select just one section the auxiliary template (code (<https://en.wikisource.org/w/index.php?title=Template:Sec&oldid=4659477>)) is used.

These alternatives have no straightforward way of allowing overlapping sections.

Transcluding a page from the start to a specified position in the expanded wikitext can be done with #padleft without any preparation of that page. If one wants to control the exact end of the transcluded part, without a sentence or paragraph cut off, every time the first part of the page is edited the truncation parameter has to be adjusted.

Notes

- This process is called transclusion. If a page is specially intended for this purpose it is called a **template**. In terms of programming languages, the wikitext of a page can be considered a string expression. In this view a template call is the call of a string function. The template page is the function body. The resulting string may be either be fixed or depend on parameters and/or variables. Other than in many programming languages the declaration of the function does not start with a formal parameter list, it consists of the function body only, which is a string expression for the result. See also compound document.
- This is called a template call or template tag; it has two "braces" on either side of the template page name and doesn't include the "Template:" prefix. {{Template:Tc}} also works, but "Template:" is not necessary. The result is "{{t1c|...}}".
- The potential difference between the wikitexts {{:The weather in London|a|b|c}} and [[Red link|The weather in London]], now giving The weather in London and The weather in London, is, of course, that after creation of the page the rendering of the first changes and that of the second remains the same, except for the color of the link. The two can be distinguished by the link target (which one may see in the browser in the status bar or a hoverbox), in the case of a piped link. Even with the same target, on wikis without case-sensitivity for the first letter one can recognize an ordinary link as such if the rendered name starts with a lowercase letter, because the rendering of the inclusion code shows the canonical page name: {{:the weather in Londona|b|c}} and [[the weather in London]] give The weather in London and the weather in London.
- This prefix can be used in all languages, but the canonical prefixes in languages other than English include Vorlage, Modèle, Sjabloon, with colon (respectively, German, French, and Dutch); the site WikiFAQ calls it Snippet.
- Pages in namespaces other than the "Template" namespace can also be used as templates, except for pages in namespaces specified in \$wgNonincludableNamespaces. To use a page in the main namespace as a template, add a colon before the page name.
- Also commonly called: brackets/curly parenthesis
- Optionally with a pipe and a default.
- A more technical explanation: The parameter names in assignments matching a formal parameter are selected. Only the wikitexts for the parameter values of these are expanded, as well as the defaults of the undefined ones, if specified. The template call is replaced by the template content, where the parameter tags with matching names are replaced by their values or defaults. The result of this step can be viewed by applying subst. While what was explained involved expansion of wikitext for the template name, all parameter names and selected parameters can involve recursion in expanding the template. To illustrate the above, a page with {{t1demo|{{ta}}|{{tb}}|{{tc}}={{td}}|1={{te}}|2={{tf}}}}, with Template:T1demo only using parameter {{{1}}}, and giving start-start-pqr-end-end, transcludes templates tc and te only.
- A parameter in a template is a placeholder for the parameter value specified in the template call. A parameter is also called an *argument*, e.g. in "template argument size".
- This was the original further template up until 20:56, 19 June 2008, when much more complex formatting was added, which is beyond the scope of this article.
- Template parameters are called-by-value, and therefore input parameters only (see also the section "Template expansion"). Thus a template call has, after the template name, zero or more parameter definitions, separated by raw pipes (raw means here: in the wikitext, not just in the expanded wikitext, and not inside double or triple braces or double brackets). Furthermore, each parameter definition containing a raw equals sign is split around the first such equals sign into a parameter name and parameter value. In this stage the wikitexts for the parameter names are expanded, but not yet those for the parameter values. For any remaining parameter definitions the implicit numbers of the parameters are 1, 2, 3, etc. (so if there are also named parameters the implicitly numbered parameters are numbered according to the position among themselves, not the position in the mixed list as a whole). If a parameter would be assigned a value more than once (more than once as named parameter, or once as implicitly numbered one and once or more as named one), working from left to right through the mixed list only the last assignment is retained. The result is an associative array of parameter names and corresponding wikitexts for the parameter values.
- bugzilla:14235
- Excluding the fixed amount of 1 for the page.
- The terms *page count* refers here to a count regarding a page, not a count of a number of pages. The term *template limit* is somewhat misleading since parser functions and even <nowiki> tags and section headers also contribute to some of the counts.

See also

- Help:Advanced templates
- Introductions:
 - Transclusion
 - Help:A quick guide to templates
 - mw:Help:Templates
 - mw:Help:TemplateData
- Help:Calculation
- Help:Parser function
- mw:Help:Extension:ParserFunctions
- Help:Parameter default
- Help:Magic words
- Help:Substitution
- Help:Template documentation
- Help:Variable
- Help:Newlines and spaces#Automatic newline
- Help:What links here
- Special:Mostlinkedtemplates - shows the number of pages in which each template is transcluded, not counting transclusions through redirects
- Special:Unusedtemplates - templates which are not transcluded (however, they may be used for substitution)

- [interwiki transclusion](#)
- [MediaWiki help templates](#)
- [List of all templates on this server \(https://meta.wikimedia.org/w/index.php?title=Special:Allpages&namespace=10\)](https://meta.wikimedia.org/w/index.php?title=Special:Allpages&namespace=10)
- [Templates of Wikimedia projects](#)
- [w:Wikipedia:Template namespace](#)
- [mw:Extension:ExpandTemplates](#)
- [mw:Extension:Labeled Section Transclusion](#) - transclusion of part of a page
- [w:Wikipedia:Template doc page pattern](#)
- [w:Wikipedia:Template limits](#)
- [DynamicFunctions###arg:](#)

1. `arg:` - instead of *including* a page for given parameter values, this allows *linking* to a page for given parameter values. Syntax for parameter use: `{{arg:parameter name|default}}`. Syntax for linking: external link style with `"¶meter name=parameter value"` added to the URL.

- [w:Wikipedia:Anatomy of a template](#)
- [w:Wikipedia:Transclusion costs and benefits](#)
- [mw:Manual:Parser.php](#)
- [mw:Lua scripting](#)
- [Template preview feature](#)

See also [Meta:List of templates](#).

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Help:Advanced templates

This page covers **advanced template techniques**, in particular the use of variable template names and parameter names in templates. Readers should be thoroughly familiar with the standard template techniques found in [Help:Template](#). Some techniques described below may be outdated or of limited use; for example, [ParserFunctions](#) or [Lua](#) may be more convenient than some of the branching techniques discussed.

In general, these techniques rely on the recursive (inside-out) processing of templates. When a template is expanded (processed), it translates template code into string values. These are often sent directly to the web browser for display, but they can be treated as code themselves. By enclosing the text strings in double-curly-brackets (), for instance, they can be reprocessed as template names or variable names, producing different results as the string values are changed.

Notes:

- This document refers to features currently only available in the Mediawiki software starting with version 1.6 and later.
- The term "variable" has two uses in this document:
 - As noun it means a type of magic word, which is a system-based variable that can be accessed in the same manner as templates (thus will return the name of the current namespace, depending on the page).
 - As adjective or adverb, it is used in the general sense, to indicate that something may vary with context (thus a "variable template name" means that the name of the template being called can change according to parameters or variables).
- Using "subst:" with manual recursion gives a stepwise replacement, useful for analyzing and explaining the working of templates calling other templates. For instance, compare (discussed below) with on a sandbox page. Though both produce the same *visible* result, the first will remain as the full code , while the second will replace the inner template with its value, leaving the code .

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Variable templates

In some cases, it may be useful for a template to call different templates depending on a variable or a passed parameter. This allows a type of branching that can be simpler than with [ParserFunctions](#), though they are generally less versatile.

Examples:

Using a variable to choose a template -

The magic word returns the current namespace, like so: = *Help*. The outer brackets then process this result as a template in its own right - in this case [Template:Help](#) - which produces *This phrase is the contents of [Template:Help](#)*.

Using a template to choose a template -

the template contains the text "tc". This text is processed by the outer brackets as [Template:tc](#) which contains the word "".

The extra spaces in the above examples are needed: without them, the pair of inner three braces is taken as those for a parameter. On the page itself it just shows as plain text: .

Using a parameter to choose a template -

The second parameter passed becomes part of the template name to which the first parameter is passed. In this case would produce , would produce , and etc. [Template:Hist5](#) uses this technique repeatedly in to produce the following 5 line histogram:

```
XXXX
XXXXXXX
XXX
XX
XXXXXXXXXX
```


Whilst the same output could also be produced using #switch:, this method is less intensive on the server and may help to stay under page limits; see Help:Array.

Parameter name from another parameter in the same template - {{ppp|p=foo|foo=bar}}

A parameter name is a wikitext that is expanded before being used as name. For instance, using Template:ppp, which contains {{{{{p}}}}} (six braces, the parameter name is itself a parameter), the code {{ppp|p=foo|foo=bar}}:

- Sets the parameter named {{foo}} to the value "bar", and then set the parameter named {{p}} to the value of foo. The order in which the parameters appear in the code does not matter.
- Then the content of template:ppp is used, the parser analyzing it as {{...}} = a variable name.
 - It then isolates the wikitext that takes place in this variable names, which is {{p}}.
 - It then expands that wikitext, finding it to be a valid variable name.
 - It replaces the variable name *p* by its wikitext value, yielding "foo".
- After inner expansion, the variable is therefore {{foo}}
- It replaces the variable name *foo* by its value, yielding "bar".

The result of the template call is therefore bar.

The name expansion is recursive, so the technique can be applied multiple times—e.g., using Template:tvvv, which contains {{{{{{p}}}}}}, {{tvvv|p=foo|foo=bar|bar=biz}} gives:

- Variable initialization : {{p}} = "foo" ; {{foo}} = bar ; {{bar}} = "biz".
- Template expansion is {{...}} with parameter name = {{{{p}}}}.
 - Parameter name expansion is {{...}} with parameter name = {{p}}.
 - Parameter name expansion is {{...}} with parameter name = "p".
 - Parameter {{p}} has been initiated to "foo" : expansion wikitext is "foo".
 - Parameter {{foo}} has been initiated to "bar" : expansion wikitext is "bar".
 - Parameter {{bar}} has been initiated to "biz" : expansion wikitext is "biz".

Result is biz.

And so on, using Template:tvvvv, which contains {{{{{{{p}}}}}} (forth level indirection, twelve braces), {{tvvvv|p=alpha|alpha=beta|beta=gamma|gamma=delta}} gives delta (whatever use that may have).

Branching techniques without ParserFunctions

The parameter default feature was introduced before Extension:ParserFunctions. This led to the development of branching methods through the parameter default mechanism.

If-defined branches - {{test|{{test|}}|{{then}}}}

- If no value is passed for the parameter test, then {{test|{{test|{{then}}|}}|{{then}}}} resolves to {{test|{{then}}|}}|{{then}}}} and returns the value of the parameter "then" (since no value was passed for test).
- If the parameter "test" is assigned the value "boo", however, {{test|{{test|{{then}}|}}|{{then}}}} resolves to {{testboo|{{then}}|}}|{{then}}}}, and so long as no parameter "testboo" exists, then this will return the value of the parameter "then".
- If the parameter "test" is defined but its value is empty, {{test|}} is defined and its value is empty, therefore {{test|{{then}}|}}|{{then}}}} is defined and its value is empty.

See Template:Ifwpc or Template:if for comparisons.

There was also an array technique using parameter defaults, with the disadvantage that a template using this technique had to be called with, in addition to the normal parameters, a standard parameter definition not reflecting a choice, but necessary to make the template work.

An even older branching technique dates from before the introduction of the parameter default mechanism. It is based on the fact that if in a template call a parameter is assigned a value more than once, the last one counts. This is used in combination with specifying the value of a parameter in a template call, where the name of that parameter depends on a parameter of an outer template. In a call {{a|b=c|{{d}}=e}}, template:a uses b=c if b≠{{d}} and b=e if b={{d}}.

Another old "branching technique" is using a template name depending on the value of a parameter (see above).

Variable variable names

Magic word depending on a template - {{t curr}}

Template:t curr containing "{{CURRENT|{{1|DAY}}}<noinclude>[[Category:Test pages]</noinclude>" gives the text *15* without parameters, since it defaults to {{CURRENTDAY}}, but {{t curr|DAYNAME}} gives *Saturday* while {{t curr|MONTHNAME}} gives *September*. Any magic word that begins with "CURRENT" can be accessed this way.

Parser function parameter depending on a template parameter - {{ns:{{1}}}}

In Template:Namespace, which contains "namespace number:{{1}} - name:{{ns:{{1}}}}", {{namespace|4}} gives "namespace number:4 - name: Meta", because *Meta* is the name of namespace 4.

External examples

- VARIABLE MAGIC WORDS
 - Template:H:h and Template:H:f (see edit pages, MediaWiki help policy, and list (http://meta.wikimedia.org/w/index.php?title=Special:Allpages/h&namespace=10))
 - Template:Nsn - namespace number (see also below)
 - Template:Gns - generic namespace name, useful for linking to the corresponding page on another project
 - de:MediaWiki:Newarticletext and de:MediaWiki:Noarticletext (see edit pages and list (http://de.wikipedia.org/w/index.php?title=Spezial:Allpages/MediaWiki&namespace=10))
 - w:en:Template:H:f - for project-specific content on all help pages of the English Wikipedia (requires a blank template on all pages that do not have this content)

See also

- ParserFunctions (syntax for #if:, #expr:, etc.)
- Meta talk:Templates for translating language names
- Help:Array

Links to other help pages

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Help:Variable



See **Help:Magic words on www.mediawiki.org** for more information. The page here is currently kept for things not yet merged to www.mediawiki.org and for documentation specific to the Wikimedia Foundation.

A **variable** can be considered a predefined template without parameters. See also Help:Parser function.

This is a list of variables that can be used in the wikitext. The way they are rendered vary with time (directly depending on time, or e.g. for number of articles, depending on the creation of other articles), on the project (it changes when the wikitext is copied), or on the page in which it occurs (it changes when the wikitext is copied, when the page is renamed, and when the page is included in another page).

On the left is the variable, on the right how it is rendered at this time, in this project, on this page.

The names of the variables form part of the set of so-called "magic words" the system uses.

With Special:ExpandTemplates one can view the value of a variable, or more generally, the expanded wikitext a variable or a wikitext with variables and/or template calls produces, as intermediate step toward rendering.

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Constants

<code>{{SITENAME}}</code>	Meta
<code>{{SERVER}}</code>	//meta.wikimedia.org
<code>{{SERVERNAME}}</code>	meta.wikimedia.org
<code>{{CONTENTLANGUAGE}}</code>	en code of the site's default interface language (<u><code>\$wgLanguageCode</code></u>)

Depending on page

`{{NAMESPACE}}` and `{{NAMESPACEEE}}` return an empty string in the article namespace `{{ns:0}}`, see above and NS:0.

`PAGENAMEE` displays the page title in the form that is used in URLs, i.e. with underscores for spaces, and percent-encoding for special characters, and is therefore used for constructing URLs incl. *query strings*.

For example, on Template talk:!, SUBJECTPAGENAMEE would produce Template:%21. Don't encode PAGENAMEE etc. again, i.e. don't use it in the first parameter of **fullurl**: and similar parser functions, {{urlencode:%21}} = %2521 probably won't work as expected. *Query strings* in PURL redirections are an exception.

The "EE" encoding examples shown above for this page are not very interesting, only TALKPAGENAMEE and TALKSPACEE differ from TALKPAGENAME and TALKSPACE. See Help:Link and Help:Magic words for other examples.

In a subpage, [[. . /]] renders as a link to the parent page. For example, on m:Link/a/b it gives an internal link to m:Link/a, see Help:Link#Subpage feature.

"{{REVISIONID}}" → "17751563" [1] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BREVISIONID%7D%7D%22&removecomments=true) showing the **current** unique revision number of a saved page as used for diffs in the page history is in essence useless, it can't be substituted and also doesn't work in preview.

Varying with time

See also: en:Category:Date-computing templates

Time

The time in UTC. Note that if the page was displayed by the same user and has not changed (page has not been edited) since the last time it was displayed, it is possible that the page may be cached (by the user's browser) and the displayed time or date may not change. Also, if a heavily used page, rather than freshly rendered by the software each time it is generated, is instead being retrieved from a caching system (such as the main page on Wikipedia) the date or time may not change from the last time the page was originally retrieved by the caching hardware or software.

Word	Example	Explanation
{{CURRENTDAY}}	24	Displays the current day in numeric form.
{{CURRENTDAY2}}	24	[MW1.6+] Same as {{CURRENTDAY}} , but with leading zero (01 .. 31).
{{CURRENTDAYNAME}}	Monday	Name of the day in the language of the project or English.
{{CURRENTDOW}}	1	Same as {{CURRENTDAYNAME}} , but as a number (0=Sunday, 1=Monday...).
{{CURRENTMONTH}}	09	The number 01 .. 12 of the month.
{{CURRENTMONTHABBREV}}	Sep	[MW1.5+] Same as {{CURRENTMONTH}} , but in abbreviated form as Jan .. Dec.
{{CURRENTMONTHNAME}}	September	Same as {{CURRENTMONTH}} , but in named form January .. December.
{{CURRENTTIME}}	02:16	The current time (00:00 .. 23:59).
{{CURRENTHOUR}}	02	The current hour (00 .. 23).
{{CURRENTWEEK}}	39	Number of the current week (1-53) according to ISO 8601 with no leading zero.
{{CURRENTYEAR}}	2018	Returns the current year.
{{CURRENTTIMESTAMP}}	20180924021631	[MW1.7+] ISO 8601 time stamp.

Local time

Local time depends on the local timezone of the wiki, not the time zone in the user preferences. These should generally use {{#time:}} if ParserFunctions are installed, but the following legacy variables are also available from MediaWiki 1.8+.

Word	Example	Explanation
<code>{{LOCALDAY}}</code>	24	Displays the local day of the month in numeric form.
<code>{{LOCALDAY2}}</code>	24	Same as <code>{{LOCALDAY}}</code> , but with a leading zero (01 .. 31).
<code>{{LOCALDAYNAME}}</code>	Monday	Name of the day in the language of the project or English.
<code>{{LOCALDOW}}</code>	1	Same as <code>{{LOCALDAYNAME}}</code> , but as a number (0=Sunday, 1=Monday...).
<code>{{LOCALMONTH}}</code>	09	The number 01 .. 12 of the month.
<code>{{LOCALMONTHABBREV}}</code>	Sep	Same as <code>{{LOCALMONTH}}</code> , but in abbreviated form as Jan .. Dec.
<code>{{LOCALMONTHNAME}}</code>	September	Same as <code>{{LOCALMONTH}}</code> , but in named form as January .. December.
<code>{{LOCALTIME}}</code>	02:16	The local time (00:00 .. 23:59).
<code>{{LOCALHOUR}}</code>	02	The local hour (00 .. 23).
<code>{{LOCALWEEK}}</code>	39	Number of the local week (1-53) according to ISO 8601 with no leading zero.
<code>{{LOCALYEAR}}</code>	2018	Returns the local year.
<code>{{LOCALTIMESTAMP}}</code>	20180924021631	ISO 8601 time stamp.

Because of the way MediaWiki and most browsers cache HTML pages, time variables which change more often than once a day will typically show the time the page was last cached, rather than the current time.

Statistics

See [Statistics](#).

Substitution

Main article: [Help:Substitution](#)

When `{{<includeonly>subst:</includeonly>CURRENTTIMESTAMP}}` is included and thereby substituted, the timestamp of doing that is put in the wikitext, and similarly for other variables. Examples:

```

{{CURRENTTIMESTAMP}}
20180924021631 - stays a variable on pages including the template
{{subst:CURRENTTIMESTAMP}}
20060526024210 - became a substituted constant in the template
{{<includeonly>subst:</includeonly>CURRENTTIMESTAMP}}
20180924021631 - becomes a constant at the time of its inclusion

```

Templates with the "*includeonly subst magic*" must also be subst-ed.

Other

Word	Example	Example results	Explanation
<code>{{PAGESINCATEGORY:category}}</code> <code>{{PAGESINCATEGORY:category R}}</code>	<code>{{PAGESINCATEGORY:User en}}</code> <code>{{PAGESINCATEGORY:User en R}}</code>	7,303 7303	[MW1.13+] Returns the number of pages in a given category.
<code>{{PAGESINCAT:category}}</code> <code>{{PAGESINCAT:category R}}</code>	<code>{{PAGESINCAT:User en}}</code> <code>{{PAGESINCAT:User en R}}</code>	7,303 7303	[MW1.13+] Alias of PAGESINCATEGORY.

Examples of combinations with parser functions

```
{{fullurl:{{FULLPAGENAME}}|action=edit}}
//meta.wikimedia.org/w/index.php?title=Help:Variable&action=edit
```

```
{{fullurl:w:en:Special:Whatlinkshere|target={{NAMESPACE}}:Contents}}
https://en.wikipedia.org/wiki/en:Special:Whatlinkshere?target=Help:Contents
```

```
{{fullurl:m:Special:Whatlinkshere|target={{FULLPAGENAME}}}}
https://meta.wikimedia.org/wiki/Special:Whatlinkshere?target=Help:Variable
```

```
[[{{NAMESPACE}} talk:{{PAGENAME}}]]
Help talk:Variable
```

```
{{fullurl:{{NAMESPACE}} talk:{{PAGENAME}}}}
//meta.wikimedia.org/wiki/Help_talk:Variable
```

The old form `{{SERVER}} {{localurl:page}}` does not always work:

```
{{SERVER}} {{localurl:Wikipedia:Category}} gives //meta.wikimedia.orghttps://en.wikipedia.org/wiki/Category
```

Apart from those problems it is in essence the same as `{{fullurl:page}}` in recent (**1.5+**) versions of the software.

In a template, for a link to a page which depends on a template parameter, the external link style is used even for internal links, to avoid that the system links to the edit page even if the page exists. To construct the external link, variables can also be useful.

Variable in the form of a template call

If the syntax of a template call with parameters is applied with the name of a variable, depending on the variable the parameters are either ignored or cause the variable to be interpreted as a (non-existing) template:

- Variables like `{{NUMBEROFPAGES:R}} = 10498243` with a "raw" format are always handled as variable, `{{NUMBEROFPAGES:R|Parameter}} = 10498243`.
- Other variables like `{{CURRENTDAYNAME}} = Monday` are handled as template for given parameter(s), `{{CURRENTDAYNAME|x}} = Template:CURRENTDAYNAME`.
- Parser functions like `{{lc: Lower Case}} = lower case` ignore extraneous parameters, `{{lc: Lower|Case}} = lower`.
- Parser function `ns` (e.g. `{{ns: 1}} = Talk`) gives an empty string for a non-applicable numerical parameter value, and evaluates in the case of a non-numerical parameter value as template (the template name being the whole text until "|" or "}"):

```
{{ns: 1234}} =
{{ns: t|abc}} = Template:Ns: t
```

- Parser functions like `fullurl` don't support the `../` notation, and in namespaces supporting subpages this has odd effects: like above, they evaluate such an invalid parameter value as template, see [Link/a](#) and [Link/a/b](#). Here it just renders the wikitext:

```
{{fullurl:../a}} = Template:Fullurl:../a.
The cases #2, #4, and #5 resulting in template calls are probably related.
```

See also

- [Help:Parser function](#): a way of integrating with the parser more tightly since version 1.7.0
- [Adding parser functions](#)
- The [ParserFunctions](#) extension (**#expr:**, **#if:**, **#ifeq:**, etc.; **#titleparts:**)
- [Help:Substitution](#): on applying "subst" to a variable or to a template using a variable
- [mw:Manual:Magic words](#)
- [mw:Extension:Variables](#): *adding new magic words like {{CURRENTUSER}}*
- [MagicWord.php](#) (<http://svn.wikimedia.org/svnroot/mediawiki/trunk/phase3/includes/MagicWord.php>)
- [JavaScript variables supplied by the server](#)

In the case of transclusion from an image page on Commons to the corresponding page on another project, the variables refer to the page on Commons, see m:Image:Tst.png.

Links to other help pages

Help contents

Meta (https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikinews (https://en.wikinews.org/wiki/Special:Allpages?namespace=12) · Wikipedia (https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) · Wikiquote (https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) · Wiktionary (https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) · Commons: (https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikidata (https://www.wikidata.org/wiki/Special:Allpages?namespace=12) · MediaWiki (https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) · Wikibooks (https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) · Wikisource (https://en.wikisource.org/wiki/Special:Allpages?namespace=12) · MediaWiki: Manual (https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · Google

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Variable) · Wikipedia (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Variable) · MediaWiki (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Variable)

Reading

Go · Search · Stop words · Namespace · Page name · Section · Backlinks · Redirect · Category · Image page · Special pages · Printable version

Tracking changes

Recent changes (enhanced) | Related changes · Watching pages · Diff · Page history · Edit summary · User contributions · Minor edit · Patrolled edit

Logging in and preferences

Logging in · Preferences · User style

Editing

Starting a new page · Advanced editing · Editing FAQ · Edit toolbar · Export · Import · Shortcuts · Edit conflict · Page size

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Links · URL · Piped links · Interwiki linking · Footnotes

Style and formatting

Wikitext examples · CSS · Reference card · HTML in wikitext · Formula · List · Table · Sorting · Colors · Images and file uploads

Fixing mistakes

Show preview · Testing · Reverting edits

Advanced functioning

Expansion · Template · Advanced templates · Parser function · Parameter default · Variable · System message · Substitution · Array · Calculation · Embed page

Others

Special characters · Renaming (moving) a page · Preparing a page for translation · Talk page · Signatures · Sandbox · Legal issues for editors

Languages:	English · (https://meta.wikimedia.org/w/index.php?title=Help:Variable/ar&uselang=ar) العربية · català (https://meta.wikimedia.org/w/index.php?title=Help:Variable/ca&uselang=ca) · Deutsch (https://meta.wikimedia.org/w/index.php?title=Help:Variable/de&uselang=de) · Esperanto (https://meta.wikimedia.org/w/index.php?title=Help:Variable/eo&uselang=eo) · français (https://meta.wikimedia.org/w/index.php?title=Help:Variable/fr&uselang=fr) · italiano (https://meta.wikimedia.org/w/index.php?title=Help:Variable/it&uselang=it) · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Variable/ja&uselang=ja) · 中文 (https://meta.wikimedia.org/w/index.php?title=Help:Variable/zh&uselang=zh)
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Retrieved from "https://meta.wikimedia.org/w/index.php?title=Help:Variable&oldid=17751563"

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Help:Parser function

Languages:	English · 日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Parser_function/ja&uselang=ja)
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*This article is about parser functions in general. For the MediaWiki extension **ParserFunctions**, see [mw:Help:Extension:ParserFunctions](#).*

A **parser function** is one of the double-brace structures that can be in a page, see also [Help:Expansion](#). It returns a value based on at least one unnamed parameter, separated from the function name by a colon ":". There may also be additional parameters, which, like those of ordinary templates, are each preceded by "|". Parser functions differ by whether they have a leading [hash character](#) (#):

1. {{functionname: argument 1 | argument 2 | argument 3...}}

- Core parser functions (standardly built into MediaWiki); this is for backwards compatibility
- Optionally for [parser function extensions](#)

2. {{#functionname: argument 1 | argument 2 | argument 3...}}

- By default for parser function extensions, e.g., the [ParserFunctions](#) extension, to prevent collision with namespaces and interwiki prefixes

The distinction between parser functions and [variables](#) is technically that adding a pipe to the call of a variable causes the call to refer to a template with the same name, while excess parameters of a parser function are ignored. A not so strict distinction is also that the result of applying a variable usually depends on the time, the wiki, or the page, while the result of applying a parser function usually does not (although independence of the wiki requires that the same version of the parser function is installed, of course). The syntax is not necessarily different, except that variable names are always in capitals and never start with "#".

Compare the variable "PAGESINCATEGORY" and the parser function "formatnumber":

"{{PAGESINCATEGORY:Help}}" → "0" [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGESINCATEGORY%3AHelp%7D%7D%22&removecomments=true>)

"{{PAGESINCATEGORY:Help|R}}" → "0" [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BPAGESINCATEGORY%3AHelp%7cR%7D%7D%22&removecomments=true>)

"{{formatnum:987654321.654321}}" → "987,654,321.654321" [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Bformatnum%3A987654321.654321%7D%7D%22&removecomments=true>)

"{{formatnum:987,654,321.654321|R}}" → "987654321.654321" [4] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Bformatnum%3A987%2C654%2C321.654321%7cR%7D%7D%22&removecomments=true>)

For each language, there is a file, like `MessagesEn.php`, that specifies, for each variable and parser function name, whether the name is case-sensitive.

Usually variables are case-sensitive and parser functions are not. To some variables, ":R" can be added ("raw" modifier), but, although now a parser function, the name is still case-insensitive. Exceptions are the function names `DISPLAYTITLE:`, `PAGESINNAMESPACE:`, `PAGESINNS:`, and `DEFAULTSORT:`, which are case-sensitive, and the variable name `CURRENTTIME`, which is case-insensitive.

MediaWiki's core parser functions are listed below and in [Help:Magic words](#).

Contents

Formatting

- LC
- UC
- LCFIRST
- UCFIRST
- URLENCODE
- ANCHORENCODE

NS

NS:1

ns:0 gives null string

Empty or invisible section headers

URLs etc.

Example

#language:

Pages in category

#invoke

Use of result

Expansion

Interpretation of a parser function as a template

Substitution

See also

Links to other help pages

Formatting

LC

Makes the given text lowercase and removes newlines and spaces from the start and end.

- `"{{lc: AbC dEf }}"` → "abc def" [5] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Blc%3A+AbC+dEf%7D%7D%22&removecomments=true>)
- `"{{lc: Ä B ç }}"` → "ä β ç" [6] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Blc%3A+%C3%84+%CE%92+%C3%87%7D%7D%22&removecomments=true>)

UC

Makes the given text uppercase and removes newlines and spaces from the start and end.

- `"{{uc: AbC dEf }}"` → "ABC DEF" [7] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Buc%3A+AbC+dEf%7D%7D%22&removecomments=true>)
- `"{{uc: ä β ß j }}"` → "Ä B ß j" [8] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Buc%3A+%C3%A4+%CE%B2+%C3%9F+%C7%B0%7D%7D%22&removecomments=true>) (expected: Ä B SS J)

LCFIRST

Makes the first character lowercase and removes newlines and spaces from the start and end:

- `"{{lcfIRST: AbC dEf }}"` → "abC dEf" [9] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BlcfIRST%3A+AbC+dEf%7D%7D%22&removecomments=true>)
- `"{{lcfIRST: Lower case }}"` → "lower case" [10] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BlcfIRST%3A+Lower+case%7D%7D%22&removecomments=true>)

UCFIRST

Makes the first character uppercase and removes newlines and spaces from the start and end:

- `"{{ucfIRST: AbC dEf }}"` → "AbC dEf" [11] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BucfIRST%3A+AbC+dEf%7D%7D%22&removecomments=true>)
- `"{{ucfIRST: upper case }}"` → "Upper case" [12] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BucfIRST%3A+upper+case%7D%7D%22&removecomments=true>)

URLENCODE

Removes newlines and spaces from the start and end, and converts the remaining text into URL-friendly format by replacing spaces with "+" and other URL formatting characters with their escaped equivalents:

- `"{{urlencode:hello world?&=#/:}}"` → `"hello+world+%3F%26%3D%23%2F%3A"` [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3Ahello+world+%3F%26%3D%23%2F%3A%7D%7D%22&removecomments=true>)
- `"{{urlencode: "#$%&'()*+,;?[]^`{ } }}"` → `"%22%23%24%25%26%27%28%29%2A%2C%3B%3F%5B%5D%5E%60%7B%7D%7D%7D%22&removecomments=true"` [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3A+%22%23%24%25%26%27%28%29%2A%2C%3B%3F%5B%5D%5E%60%7B%7D%7D%7D%22&removecomments=true>)
- `"{{urlencode:<}}"` → `"%3C"` [15] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3A%3C%7D%7D%22&removecomments=true>) (with the old preprocessor not the percent code `%3C` of the symbol itself, but the percent code of the HTML code `<`;))
- `"{{urlencode:>}}"` → `"%3E"` [16] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3A%3E%7D%7D%22&removecomments=true>) (with the old preprocessor not the percent code `%3E` of the symbol itself, but the percent code of the HTML code `>`;))
- `"{{urlencode:{{!}}}"` gives `"%7C"` [17] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3A%7B%7B%21%7D%7D%7D%7D%22&removecomments=true>) ("`!`" needs to be given indirectly, using `Template:!`)

ANCHORENCODE

For anchors *within* a page use `{{anchorencode}}` instead of `{{urlencode}}`. The results of a call to `{{anchorencode}}` are compatible with intra-page references generated for `[[#link]]`s, while `{{urlencode}}`-generated values are not necessarily so.

Note that (contrary to `urlencode`) the encoding made by "anchorencode", which uses the dot character as a prefix before a byte represented in hexadecimal, is not fully reversible. "anchorencode" is then NOT suitable for passing query parameters. However, the encoding made by "urlencode" (which uses "%" characters) is not compatible with the more restricted character sets allowed in HTML and XML for ids. The two encodings also differ in the way they encode the space.

Compare:

- `"{{anchorencode:Langue française}}"` → `"Langue_française"` [18] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Banchorencode%3ALangue+fran%C3%A7aise%7D%7D%22&removecomments=true>) (*valid only for anchors to sections in MediaWiki pages*)
- `"{{urlencode:Langue française}}"` → `"Langue+fran%C3%A7aise"` [19] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7Burlencode%3ALangue+fran%C3%A7aise%7D%7D%22&removecomments=true>) (*for paths or query parameters in URLs, excluding anchors*)

The encoding made by `anchorencode` is suitable to give anchor names within pages made with MediaWiki.

It is not guaranteed to work with other web sites: if you need to specify an anchor in a page not hosted on a server running MediaWiki, the anchor is not warranted to work as expected. So, use "anchorencode" only for targeting a MediaWiki web site, such as those from the Wikimedia Foundation projects.

NS

Gives the namespace name for a given namespace number or name:

Code with Number	Code with Name	Returns with Number	Returns with Name
{{ns:-2}}	{{ns:media}}	Media	Media
{{ns:-1}}	{{ns:special}}	Special	Special
{{ns:0}}	{{ns:}}		
{{ns:1}}	{{ns:talk}}	Talk	Talk
{{ns:2}}	{{ns:user}}	User	User
{{ns:3}}	{{ns:user_talk}}	User talk	User talk
{{ns:4}}	{{ns:project}}	Meta	Meta
{{ns:5}}	{{ns:project_talk}}	Meta talk	Meta talk
{{ns:6}}	{{ns:image}}	File	File
{{ns:7}}	{{ns:image_talk}}	File talk	File talk
{{ns:8}}	{{ns:mediawiki}}	MediaWiki	MediaWiki
{{ns:9}}	{{ns:mediawiki_talk}}	MediaWiki talk	MediaWiki talk
{{ns:10}}	{{ns:template}}	Template	Template
{{ns:11}}	{{ns:template_talk}}	Template talk	Template talk
{{ns:12}}	{{ns:help}}	Help	Help
{{ns:13}}	{{ns:help_talk}}	Help talk	Help talk
{{ns:14}}	{{ns:category}}	Category	Category
{{ns:15}}	{{ns:category_talk}}	Category talk	Category talk
Namespaces 100 and higher are customized by each site			
{{ns:100}}	{{ns:hilfe}}		<u>Template:Ns:Hilfe</u>
{{ns:101}}	{{ns:hilfe_diskussion}}		<u>Template:Ns:Hilfe Diskussion</u>

"[{{ns:{{ns:12}}_talk}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A12%7D%7D_talk%7D%7D%22&removecomments=true)" gives "Help talk" [20] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A12%7D%7D_talk%7D%7D%22&removecomments=true).

"[{{ns:{{SITENAME}}}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7BSITENAME%7D%7D%7D%7D%22&removecomments=true)" gives "Meta" [21] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7BSITENAME%7D%7D%7D%7D%22&removecomments=true>).

"[{{ns:{{ns:8}}_talk}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A8%7D%7D_talk%7D%7D%22&removecomments=true)" gives "MediaWiki talk" [22] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A8%7D%7D_talk%7D%7D%22&removecomments=true).

"[{{ns:{{ns:8}} talk}}](http://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%22%7B%7Bns%3A%7B%7Bns%3A8%7D%7D%20talk%7D%7D%22)" gives "MediaWiki talk" [23] (<http://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%22%7B%7Bns%3A%7B%7Bns%3A8%7D%7D%20talk%7D%7D%22>).

See [Help:Variable](#) for more canonical names like "**project**" and "**talk**".

NS:1

"[{{ns:{{ns:0}}_talk}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A0%7D%7D_talk%7D%7D%22&removecomments=true)" gives "[Template:Ns: talk](#)" [24] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%7B%7Bns%3A0%7D%7D_talk%7D%7D%22&removecomments=true), just as [{{ns:_talk}}](#) gives [Template:Ns: talk](#) [25] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A_talk%7D%7D%22). The canonical name for the talk namespace of articles is "**talk**" and not "**_talk**". Appending "**_talk**" to the namespace name works for all but the main namespace.

The following constructs work:

- "[{{ns:{{ns:0}} talk}}](http://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%22%7B%7Bns%3A%7B%7Bns%3A0%7D%7D%20talk%7D%7D%22)" gives "Talk" [26] (<http://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%22%7B%7Bns%3A%7B%7Bns%3A0%7D%7D%20talk%7D%7D%22>).
- [{{ns:01}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A01%7D%7D%22) gives Talk [27] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A01%7D%7D%22>).
- [{{ns:+1}}](https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%2B1%7D%7D%22) gives Talk [28] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A%2B1%7D%7D%22>).

- `{{ns:TALK}}` gives Talk [29] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3ATALK%7D%7D%22>).
- `"{{ns:{{ns:1}}}"` gives "Talk" [30] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A1%7D%7D%7D%22&removecomments=true>).

ns:0 gives null string

`{{ns:0}}` gives [31] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bns%3A0%7D%7D%22>), an empty string. This is often handy, and less vulnerable to vandalism by a compromised administrator account, than a template **void** or similar mechanism.

The cryptic magic word `__END__` is no longer supported. It formerly allowed for trailing whitespace to be included in the saved page, but was removed in revision [19213](#).

In constructs like `{{#if: {{{T|}} | {{{T}}} | ns:0}}`, where parameter **T** is normally the name of a template to be evaluated, but can be undefined or empty, `{{ns:0}}` is then a clean empty string. Without it, `{{}}` would result in `{{}}`.

`"{{#if: {{{T|}} | {{{T}}} | ns:0}}"` gives "" [32] (<http://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%22%7B%7B%20%7B%7B%23if%3A%20%7B%7B%7BT%7C%7D%7D%7D%20%7C%20%7B%7B%7BT%7D%7D%7D%20%7C%20ns%3A0%20%7D%7D%20%7D%7D%22>).

Empty or invisible section headers

The wikitext line

```
=== {{ns:0}} ===
```

creates an entry in the TOC coded in the output HTML as

```
<li class="toclevel-2"><a href="#"><span class="tocnumber">2.4</span> </a></li>
```

attempting but failing to link to the null anchor

```
<p><a name=""></a></p>
```

and with an edit link similar to this:

```
[<a href="/w/index.php?title=Help:Parser_function&amp;action=edit&amp;section=12">edit</a>]
```

The next line is `=== {{ns:0}} ===`. Note the edit link to the right.

An empty section title (with an edit link to the right) as above is obtained using, in this case, `=== {{ns:0}} ===`. This is dubious, but arguably better than using the same trick to get invisible section headers twice on a page. At least `/* {{ns:0}} */` makes sense in the edit history, if there's only one section using this particular trick.

As shown in the table of contents, this and similar tricks result in non-functional links. In conjunction with `__NOTOC__` it's less harmful, and maybe useful to get edit links for invisible sections with categories and interlanguage links. Other possibilities for different *invisible* section headers:

1. `=== __NOTOC__ ===`
2. `=== ===`
3. `=== ===`
4. `=== ===`

URLs etc.

<code>{{localurl:fullpagename}}</code>	<code>/wiki/Fullpagename</code>
<code>{{localurl:page query=x}}</code>	<code>/w/index.php?title=Page&query=x</code>
<code>{{localurl:a&b! c}}</code> <code>{{localurle:a&b! c}}</code>	<code>/wiki/A%26b!_c</code> <code>/wiki/A%26b!_c</code>
<code>{{urlencode:a&b! c}}</code>	<code>a%26b%21+c</code>
<code>{{anchorencode:a&b! c}}</code>	<code>a&b!_c</code>
<code>{{fullurl:fullpagename}}</code>	<code>//meta.wikimedia.org/wiki/Fullpagename</code>
<code>{{fullurl:ab}}</code>	<code>//meta.wikimedia.org/wiki/Ab</code>
<code>{{fullurl:a b}}</code>	<code>//meta.wikimedia.org/wiki/A_b</code>
<code>{{fullurl:ab u=v}}</code>	<code>//meta.wikimedia.org/w/index.php?title=Ab&u=v</code>
<code>{{fullurl:m:a b u=v}}</code>	<code>https://meta.wikimedia.org/wiki/a_b?u=v</code>
<code>{{fullurl:m:ab u=v}}</code>	<code>https://meta.wikimedia.org/wiki/ab?u=v</code>
<code>{{fullurl:a b u=v}}</code>	<code>//meta.wikimedia.org/w/index.php?title=A_b&u=v</code>
<code>{{fullurl:a b u=v w}}</code>	<code>//meta.wikimedia.org/w/index.php?title=A_b&u=v w</code>
<code>{{fullurl:a&b! u=v}}</code>	<code>//meta.wikimedia.org/w/index.php?title=A%26b!&u=v</code>
<code>{{fullurle:a&b! u=v}}</code>	<code>//meta.wikimedia.org/w/index.php?title=A%26b!&u=v</code>

Note that with the interwiki prefix, the format "wiki/" is used even for edit pages etc., while it does not write the page name in canonical form.

For interwiki links, `localurl` and `fullurl` give the same result:

<code>{{localurl:w:a}}</code>	<code>https://en.wikipedia.org/wiki/a</code>
<code>{{fullurl:w:a}}</code>	<code>https://en.wikipedia.org/wiki/a</code>

The parser function `localurl:` replaces spaces by underscores and special characters by escape codes, e.g., `{{localurl:a !}}` gives `/wiki/A_!`. The main purpose was to create a link to a given page in external link style in the same project or a project that uses the same string in the URL between the server name and the page name. This function is now better served by less verbose `fullurl:` constructs, `{{fullurl:page}}` is a shorthand for `{{SERVER}} {{localurl:page}}`.

Both `fullurle:` and `localurle:` performed additional character escaping on the resulting link, but no example is known where that still has any additional effect.

Note that `fullurl:` and `localurl:` don't encode special characters and spaces in the optional *query-string* parameter. At least for spaces this will result in broken URLs:

```
{{fullurl:m:Special:Contributions|target=Jimbo Wales&limit=10}}
```

<https://meta.wikimedia.org/wiki/Special:Contributions?target=Jimbo Wales&limit=10>

With `target={{urlencode:Jimbo Wales}}&limit=10` as *query-string* it works:

<https://meta.wikimedia.org/wiki/Special:Contributions?target=Jimbo+Wales&limit=10>

The new `urlencode:` encodes spaces as "+", not "_" or the generally supported "%20", this might have interesting effects, take care. Leading and trailing spaces are stripped, but all internal spaces are preserved: `{{urlencode: @ ! }}` yields `%40++%21`.

For obvious reasons, encoding "}" or "|" cannot work directly. Don't encode "=", "&", or ";" in structured *query-strings* unless you really want them.

Example

Say you want to create a link in a template to the block log for blocked usernames -> `"{{fullurl:Special:Log/block|user=User:{{{1}}}}"`. This won't work with spaces in the name like "Example blocked user" (unless they are manually replaced with underscores), as you'd get: `"//meta.wikimedia.org/w/index.php?title=Special:Log/block&user=User:Example blocked user"`, so what you can do is escape it with: `"{{fullurl:Special:Log/block|user=User:{{urlencode:{{{1}}}}} }}"`, giving you `"//meta.wikimedia.org/w/index.php?title=Special:Log/block&user=User:Example+blocked+user"`.

See also: [bugzilla:5720](#)

Also, the magic words for page name like `{{PAGENAME}}` `{{FULLPAGENAME}}` etc all have 'escaped' versions: `{{PAGENAMEE}}` `{{FULLPAGENAMEE}}` etc.

#language:

`{{#language:code}}` gives the local language name of selected IETF BCP 47 language codes (see notes below), otherwise it returns the input value as is.

`{{#language:da}}` gives dansk [33] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Ada%7D%7D%22>)

`{{#language:fo}}` gives føroyskt [34] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Afo%7D%7D%22>)

`{{#language:zh}}` gives 中文 [35] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Azh%7D%7D%22>)

`{{#language:zh-min-nan}}` gives Bân-lâm-gú [36] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Azh-min-nan%7D%7D%22>)

`{{#language:ang}}` gives Ænglisc [37] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Aang%7D%7D%22>)

`{{#language:tlh}}` gives tlh [38] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Atlh%7D%7D%22>) (missing, incomplete list)

`{{#language:frr}}` gives Nordfriisk [39] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Afr%7D%7D%22>) (missing, introduced 2006)

`{{#language:mw}}` gives mw [40] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Amw%7D%7D%22>) (no language code as of 2006)

`{{#language:hu}}` gives magyar [41] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7B%23language%3Ahu%7D%7D%22>)

This function will replace `Template:N local` and some of the `Special:Prefixindex/Template:Lang name -` templates. For actually supported alpha2 and alpha3 codes see `Template:Sttnw`; the `27*26*26` template calls on that page may take some time to render.

Notes

The IETF BCP 47 standard is **currently** defined in [RFC 5646](#) (obsoleting the former [RFC 4646](#) and the older [RFC 3066](#)), along with the IANA registry for standard language subtags themselves, some other RFCs for the policy for registering new standard tags and subtags in the registry, and some informative RFCs documenting the evolution and migrations occurring in the registry; or the lookup and interpretation of tagged contents.

An error is to document IETF RFC document numbers instead of BCP standard track numbers, when none of the RFCs contain the language codes themselves.

Another frequent error is the confusion of BCP 47 language tags and ISO 649 language codes : they are not equivalent. In addition ISO 649 is not sufficient for software localisation (including in MediaWiki) and it would cause compatibility problems. MediaWiki preferably uses BCP 47 because it is a software that generates contents that will ultimately be interchanged with other softwares, notably on the Internet with the HTML and XML standards or in most programming languages (where BCP 47 language tags are normative, but not ISO 649 codes !!!).

However, for historical reasons, MediaWiki also defines additional codes that are not conforming to any standard (and sometimes in conflict with them in some old Wikimedia projects). These old codes are retained when they are used as subdomain names (via interwiki codes), but should not be used anywhere for tagging the generated HTML or XML contents themselves. Progressively these old codes will be migrated to standard BCP 47 language tags if possible; if there's no standard BCP 47 tag, conforming private-use tags should be used (but valid ISO 649 codes that are not conforming to BCP 47 should never be used until they are registered in the IANA database to make them valid and stable).

Basically, the conforming BCP 47 language tags are formed by using standard subtags contains most (but not all) standard ISO 649 language codes, with some extensions from ISO 15924 for script codes, from ISO 3166-1 country codes and UN M.49 continental regions codes, and some other extensions needed for specific locales; it also maintains upward compatibility with former versions of the current RFCs, but the IANA registry may deprecate some of them (without deleting them and making them invalid), when they are now considered ambiguous and would not be accepted in the registry if they were defined today under the *current* policy of the standard). Note also that some BCP 47 language tags have been defined with the former policy, even though they are not really languages but wide language families. Their usage for localization (and notably for translations) should be discouraged.

When a standard BCP 47 language tag is matching an ISO 649 language code and the IANA registry does not indicate that the tag is deprecated, some other information about the language will be defined in ISO 649-3 or ISO 649-5 about the type of language code (but the converse is not true because some valid ISO 649

language codes are not valid as standard BCP 47 language tags). Some language tags are also valid in BCP 47 due to upward compatibility, even if the associated language code in ISO 649 has been deleted or replaced by other codes, or merged into another code (the IANA registry normally maintains an history of such cases and suggests the best replacement to use instead, if possible, according to the most frequent usage of the language tag or subtag, when it was deprecated).

For a complete list of standard language subtags (all of them, including grandfathered codes registered in past versions, but excepting all conforming private-use subtags and those reserved for future use as described in standard RFCs), and normative information about their possible deprecation and possible replacement, see the IANA registry (<http://www.iana.org/assignments/language-subtag-registry>).

Pages in category

Word	Example	Example results	Explanation
<code>{{PAGESINCATEGORY:category}}</code> <code>{{PAGESINCATEGORY:category R}}</code>	<code>{{PAGESINCATEGORY:User en}}</code> <code>{{PAGESINCATEGORY:User en R}}</code>	7,303 7303	[MW1.13+] Returns the number of pages in a given category. Including sub-category pages and file description pages.
<code>{{PAGESINCAT:category}}</code> <code>{{PAGESINCAT:category R}}</code>	<code>{{PAGESINCAT:User en}}</code> <code>{{PAGESINCAT:User en R}}</code>	7,303 7303	[MW1.13+] Alias of PAGESINCATEGORY.

#invoke

On wikis with a Module namespace there is the parser function `#invoke`:

```
{{#invoke:a|f}}
```

which invokes Module:A. While the parser function call can have more parameters they are typically not needed, because typically the call is put in a template, and on the page that calls the template the wikitext produced by the template can depend on the parameter definitions in the template call, even if these parameters are not explicitly referenced in the template, i.e., neither used there nor explicitly passed on to the module. This is because the module can access these parameter definitions through the function `getParent` (see [Receiving template arguments](https://test2.wikipedia.org/wiki/Wikipedia:Guide_to_Scribbling#Receiving_template_arguments) (https://test2.wikipedia.org/wiki/Wikipedia:Guide_to_Scribbling#Receiving_template_arguments) and [Parent frame access](#)). Moreover, the module can not only (like a template) find out whether the value of a known parameter is defined, and if so, what the value is, but even find out the names of the defined parameters, whatever they are.

Use of result

The wikitext resulting from the expansion of a parser function call, like that from expansion of a variable or template call, and like a template parameter value, can be used in the following ways:

```
* the name of a template: {{ {{lc:ABC}}}
* the name of a variable: {{ {{uc:currenttime}}}
* the name of a parser function: {{ {{uc:lc}}:ABC}}
* the name of a template parameter: {{t2|{{#expr:3-1}}=a}}
* the value of a template parameter: {{t2|{{#expr:3-1}}}}
* a template parameter default value: {{1|{{#expr:7-2}}}}
* the name of a switch parameter: {{#switch:2|{{#expr:3-1}}=a}}
* the value of a parser function parameter: {{#ifeq:{{lc:AbC}}|abc|yes}}
* the target or label of an internal link: [[{{lc:AbC}}|{{uc:AbC}}]]
* the target or label of an external link: [http://{{lc:Example.Org}} {{uc:Example.Org}}]
```

gives:

- the name of a template: [Template:Abc](#)
- the name of a variable: 10:25
- the name of a parser function: abc
- the name of a template parameter: parameter 1 is "{{{1}}}", parameter 2 is "a"
- the value of a template parameter: parameter 1 is "2", parameter 2 is "{{{2}}}"
- a template parameter default value: 5
- the name of a switch parameter: a

- the value of a parser function parameter: `yes`
- the target or label of an internal link: `ABC`
- the target or label of an external link: `EXAMPLE.ORG (http://example.org)`

If the expanded wikitext contains characters, which, if put explicitly in the wikitext, are significant for parsing it, these characters are treated as plain text, because for a given page there is only one parsing phase. For example for the character "=":

```
* a template parameter definition ( 'name' = 'value' ): {{pab|{{lc:AB=CD}}}}
* a switch parameter definition ( 'name' = 'value' ): {{#switch:ab|{{lc:AB=CD}}}}
```

gives:

- a template parameter definition (*name* = *value*): `{{{ab}}}`
- a switch parameter definition (*name* = *value*): `ab=cd`

Wikitext inside XML-style tags is not expanded:

- `${{#expr:3-1}} \over 3$` gives **Failed to parse (syntax error):

{\displaystyle {{#expr:3-1}} \over 3 }**

Use `#tag` instead:

- `{{#tag:math|{{#expr:3-1}} \over 3}}` gives

2
3

 [42] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%7B%7B%23tag%3Amath%7c%7B%7B%23expr%3A3-1%7D%7D%5Cover+3%7D%7D&removecomments=true>)

Expansion

The first step in expanding any wikitext is identifying the templates, parser functions, variables and parameters from the braces, pipes and semicolons. For a parser function the next step is expanding the wikitext for the name of the parser function.

Suppose, for example, that it is `#ifexpr`. Then the next step is expanding the condition. Based on that, either the wikitext for the then-part or that for the else-part is expanded.

This is illustrated with `{{#ifexpr:1|{{ta}}|{{tb}}}} {{#ifexpr:0|{{tc}}|{{td}}}}` giving `start-pqr-end start-def-end`. A page with this wikitext transcludes `ta` and `td` only (with the old preprocessor also transcluded `tb` and `tc`).

Interpretation of a parser function as a template

In some cases, a "wrong" parser function call is interpreted as a template call, which results in an entry in the templatelinks table, giving an entry in the list of pages included in a page (on the edit box of the source page) and What links here of the target page.

This applies, e.g., for `localurl` and `fullurl` if the parameter is not a valid page name, while `"Template:localurl:"` and `"Template:fullurl:"` followed by the parameter is. This is the case if the parameter is a namespace prefix followed by a colon, e.g.:

- `{{localurl:Template:}}` giving Template:Localurl:Template:
- `{{fullurl:Template:}}` giving Template:Fullurl:Template:
- `{{localurl:Project:}}` giving Template:Localurl:Project:
- `{{fullurl:Project:}}` giving Template:Fullurl:Project:

This entry in the templatelinks table occurs even if the result produced is not rendered due to a conditional parser function. This may occur in practice using, e.g.,:

- `{{ #if:{{{1}}}|.{{ fullurl:Template:{{{1}}} }}..}}`
- `{{ #if:{{{1}}}|.{{ fullurl:Template:{{{1}}} }}..}}` in the case that the parameter is equal to the empty string; it does not occur if the parameter is undefined, because `"Template:fullurl:Template:{{{1}}}"` is not a valid page name.

Thus, the list of templates transcluded in a page may be polluted with the entries of the non-existing template Template:fullurl:Template: and similarly for other namespace names instead of the second "Template", and for "localurl" instead of "fullurl". A remedy is, e.g.,:

- `{{ #if:{{{1}}}|.{{ fullurl:Template:{{#if:{{{1}}}|{{{1}}}|[]}} }}..}}` because `"Template:fullurl:Template:[]"` is not a valid page name.

Substitution

See also: Help:Substitution.

Applying "subst:" to a parser function works:

}}{subst:LC:AbC gives abc.

Note that substituting a template that uses a parser function does not replace that parser function with its result. For full recursive substitution use [Special:ExpandTemplates](#).

See also

- [mw:Manual:Parser functions](#)
- [mw:Markup spec](#)
- [mw:Help:Magic words#Parser functions](#)
- [mw:Help:Extension:ParserFunctions](#)
- [Help:Magic words](#)
- [mw:Extension:StringFunctions](#)
- [Template:Wikivar](#)
- [Adding parser functions](#)
- [mw:Manual:CoreParserFunctions.php](#)
- [The PLURAL: function](#) (also [here](#))
- Wikipedia: [Category:Parsers](#) and [Category:XML parsers](#)
- [wikEd](#), a MediaWiki editor with syntax highlighting for templates and parser functions

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](#) or from [Meta](#) (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parser_function) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parser_function) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parser_function) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parser_function) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parser_function)

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Languages:

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日本語 (https://meta.wikimedia.org/w/index.php?title=Help:Parser_function/ja&uselang=ja)

Retrieved from "https://meta.wikimedia.org/w/index.php?title=Help:Parser_function&oldid=17767202"

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Help:Parameter default

In non-substituted template expansion, an expression `{{{p|q}}}` inside the template is expanded to `{{{p}}}` if that is defined, and else to the default argument `q`. Thus the default can be specified independently for every occurrence of the parameter.

These results `{{{p}}}` and `q` can be end results, but they can also be in an expression for a parameter name (inside a pair of triple braces or in a template call or a switch), a parameter value (in the call of a template or parser function), or name of a template, parser function or variable.

Similarly, on substitution of a template, an expression `{{{p|q}}}` inside the template, where `p` is a parameter name (or an expression which is simultaneously substituted and results in a parameter name) and `q` is any wikitext (with restrictions regarding pipes and triple braces) is processed as follows:

- if `p` is defined, `{{{p|q}}}` is changed to the wikitext of the value of `p` (or the wikitext to which that is changed if there is simultaneous substitution inside that wikitext)
- if `p` is undefined, `{{{p|q}}}` is changed to `q`, possibly with simultaneous substitutions inside the wikitext for `q`.

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In the case of multiple pipes, anything from the second pipe is ignored: `{{{a|b|c|d}}}` is equivalent with `{{{a|b}}}`. The default part can only contain `"|"` as part of full template, parser function, parameter, link, or image syntax within it, within nowiki-tags, and as content of a template, as in Template:!.

The expression for the parameter name can also contain `"|"`, as part of full template, parser function, or parameter syntax within it.

Examples, in some cases using `Template:3x` containing `"{{{1}}}{{{1}}}{{{1}}}<noinclude>{{documentation}}</noinclude>"`

and `Template:t2` containing `"parameter 1 is " {{{1}}}"`, parameter 2 is `" {{{2}}}"<noinclude>[[Category:Demo template]]</noinclude>":`

- `{{{a|b|c|d}}}` gives b - second pipe onward is ignored
- `{{{a|{{3x|b}}}}}` gives bbb
- `{{{a|{{{b|c}}}}}` gives c
- `{{{a|[[b|c]]}}}` gives c
- `{{{{{3x|a}}|b}}}` gives b - parameter aaa is undefined
- `{{{{{a|b}}|c}}}` gives c - parameter b is undefined
- `{{{a|<nowiki>b|c</nowiki>}}}` gives b|c - works fine for rendering text, but is not suitable for putting parameters b and c in a template call (there is no function for removing nowiki tags):

`{{t2|{{{a|<nowiki>b|c</nowiki>}}}}}` gives parameter 1 is "b|c", parameter 2 is "`{{{2}}}`"

Expressions containing a parameter, with default

This section was written before the extension ParserFunctions existed, to allow branching without it.

Notation: from here the wikitext `{{{a}}}` is written as `[a]`.

Consider the expression `[a[b|c]|f([b])]` occurring in a template, where `f([b])` denotes an expression in `[b]`.

Conditions:

- `[a[b]]` is undefined for all applicable `[b]` (all values of parameter b for which the template is called)
- `[ac]=d` (the template is called with `ac=d`)

Then the expression gives `f([b])` if `[b]` is defined, and otherwise d.

Note that the conditions require that no applicable `[b]` has value c. If one wants to be able to use all letters and digits in `[b]`, and also allow null (the empty string), then for c one can take e.g. "@".

If it is desirable or at least acceptable that if `[b]` is empty, the result is not `f("")` but "", and the same when `[b]` is undefined, we take `d=""`, and can for example choose c to be the empty string too. Then we have the expression `[a[b]|f([b])]` occurring in the template, giving `f([b])` if `[b]` is defined, and otherwise the empty string, under the following conditions:

- `[a[b]]` is undefined for all applicable `[b]` (all values of parameter b for which the template is called)
- the template is called with "a="

The same template can contain several expressions `[ai [bi | c] | fi ([bi)]`. By choosing all `ai` equal we need only one "a=" in the template call. Then the expressions are `[a [bi | c] | fi ([bi)]`.

A special case is with constant functions `fi`, i.e. not dependent on `[bi]`. Then the expressions are `[a [bi | c] | fi]`. In the template call it only matters for each `bi` whether it gets a value, not which value. For convenience we can assign the empty string to those which are defined at all. Since no applicable `[b]` should have value c (see above), c should not be

the empty string in this case. With `d` the empty string, the template serves as an array, where for index b_i the array value is f_i . It is called with `"ac="` and `"bi="`, or even with a list of assignments `"bi="`, giving a list of the corresponding array values. See [Template:Short DOW alt 2](#).

While normally a parameter specification in a template call represents a choice the user of the template has, the need to specify `"ac="` is an unfortunate technical requirement imposed on the user of the template; it can be shielded from the user by putting the template call inside another template; on projects where server-strain is a concern this may not be desirable.

The name `"a"` can be chosen such that no other parameters of the template have a name starting with it, then the first condition is fulfilled (apart from the case, already discussed, that `[b]` is the empty string). A good choice is `"if"`. Thus

`[if [bi| c] | fi ([bi])]`

means

if b_i is defined then f_i (`[bi]`)

`c=""` gives the if-statement which is shortest and with the best appearance, while e.g. `c="u"` (for "undefined") allows for the shortest specification in the template call to define b_i (`"bi="`) in cases where the value is irrelevant. The latter may be confusing in contexts where "empty" and "undefined" are usually treated as equivalent.

If the result, `f([b])` or the empty string, is for final display only, i.e., not for use in expressions for template names, parameter names, parameter values, page names in links, etc., an alternative is using CSS, see [MediaWiki talk:Common.css](#).

For comparison using `a="if"` and `c=d=""`, and also the shorter class name `"if"` instead of `"HiddenStructure"`, the two lines are:

```
<span class=" if{{{b|}}} "> ... </span>
{{{ if{{{b|}}} | ... }}}

```

In the second method the wikitext in the template is 15 characters shorter for each optional item, but each call is 4 characters (`"if=|"`) longer.

In the first method conflicts with other class names have to be avoided, in the second method conflicts with other parameter names.

Repetition

A "for-loop" is achieved using

[Template:Fors](#), containing:

```
{{fors/aux
|v@=
|c={{call}}
|pv={{pv|1}}
|s={{sep|}}
|pc1={{pc1|=}}
|pc2={{pc2|=}}
|pc3={{pc3|=}}
|pc4={{pc4|=}}|

```

```
1={{1|@}}|2={{2|@}}|3={{3|@}}
}}
```

with [Template:Fors/aux](#), containing:

```
{{{v{{{1}}}|{{{c}}}|{{pc1}}|{{pc2}}|{{pc3}}|{{pc4}}|{{pv}}={{1}}}}}}
{{{v{{{2}}}|{{s}}|{{{c}}}|{{pc1}}|{{pc2}}|{{pc3}}|{{pc4}}|{{pv}}={{2}}}}}}
{{{v{{{3}}}|{{s}}|{{{c}}}|{{pc1}}|{{pc2}}|{{pc3}}|{{pc4}}|{{pv}}={{3}}}}}}}}
```

In short form the latter consists of components

```
[ v[i] | [s] {{{c}}| [pc1] | [pc2] | [pc3] | [pc4] | [pv]=[i]} } ] (i = 1, 2, 3, for i = 1 without [s])
```

or in terms of the parameters of the first template:

```
[ v[i|@] | [sep|] {{{call}}| [pc1|] | [pc2|] | [pc3|] | [pc4|] | [pv|1]=[i]} } ]
```

This is indeed of the above-mentioned form `[a[b|c]|f([b])]`, with `a=v`, `b=i`, `c=@`, and

```
f(x) = [sep|] {{{call}}| [pc1|] | [pc2|] | [pc3|] | [pc4|] | [pv|1]=x}}
```

The assumptions mentioned above apply for `d` equal to null, and provided that no `[i]` is equal to `"@"`.

Variations

Since `v@=null` we can also take make the concatenation the outer operation: `[v[i|@] | [sep|] [v[i|@] | {{{call}}| [pc1|] | [pc2|] | [pc3|] | [pc4|] | [pv|1]=[i]} }]`

Conditional statement

This section was written before the extension [ParserFunctions](#) existed, to allow branching without it.

[Template:Ifold](#) contains:

```
{{{else{{{test|}}}|{{{test{{{test|}}}|{{{then|}}}}}}}}}}
```

or in short form:

```
[ else[test] | [ test[test] | [then|] ] ]
```

If `[test]` is defined this reduces to

```
[ else[test] | [ test[test] | [then|] ] ]
```

For `test` equal to null this reduces to `[else|]`; otherwise, if no parameter name starting with `"test"` or `"else"` applies except these themselves, then this reduces to `[then|]`.

If `[test]` is undefined we get

```
[ else | [then|] ]
```

Last-but technique

Sometimes the last or last but *x* parameter value may be needed, but the numbers of supplied parameters is unknown.

The following is a technique to get last "assigned" parameter value without using a template:

```
[ 4 | [ 3 | [ 2 | [ 1 | * ] ] ] ] .
```

Then last but one can be achieved like this: ("ifu" is preassigned with empty)

```
[[if[4|u]|3|
 [[if[3|u]|2|
  [[if[2|u]|1|
   [[if[1|u]|0|*] //this line is actually useless, can be replaced by "*".
  ]
 ]
 ]
 ]
```

I.e., to replace "4", "3", "2", "1" with D_4 , D_3 , D_2 , D_1 . And $D_x=[if[x|u]|x-1]$. Like this, you can get "last but *x*" parameter value.

Examples using [Template:Lastbut0](#) and [Template:Lastbut1](#):

- `{{lastbut0}}` gives no input.
- `{{lastbut0|a}}` gives a.
- `{{lastbut0|a|b|c|d|e|f|g|h|i|j}}` gives j.
- `{{lastbut1|ifu=}}` gives no input.
- `{{lastbut1|ifu=|a}}` gives no input.
- `{{lastbut1|ifu=|a|b}}` gives a.
- `{{lastbut1|ifu=|a|b|c|d|e|f|g|h|i|j}}` gives i.
- `{{lastbut0|53=53|81=81|28=28}}` gives 81 (finds maximum of a list of integers in the range 1 - 100)

See also [Template:max](#) ([talk](#), [backlinks](#), [edit](#) (<http://meta.wikimedia.org/w/index.php?title=Template:Max&action=edit>)) containing:

```
{{lastbut0|{{{1}}}={{{1}}}|{{{2}}}={{{2}}}}
```

Server efficiency

Parameter default constructs are said to be more efficiently executed by the server than similar constructs using extra layers of templates.

Versions

Information on this page relates to MediaWiki versions 1.6 and later.

History

Parameter defaults were introduced before parser functions, and therefore used ingeniously for branching, see above and e.g. [Template:T opt par](#).

See also

- [Template talk:Birth date and age/Archive 1#Code question](#) - deliberate use of the notation "{{{1}}}" (identical to the automatic result if no default is specified) as shorthand for "parameter 1 is undefined"

Links to other help pages

Help contents

[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) or from [Meta](https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Parameter_default)

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Help:System message

The **user language** of a page rendering is:

- the language specified in the parameter *uselang* in the URL, e.g. http://meta.wikimedia.org/w/index.php?title=Help:System_message&uselang=de
- by default, for a logged-in user, the [language selected in the preferences](#)
- by default, for a user who is not logged in, and for a logged-in user who has not specified a language in the preferences, the [site language](#) given by "`{{CONTENTLANGUAGE}}`", here giving "en" [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7BCONTENTLANGUAGE%7D%7D%22&removecomments=true>); on Wikimedia wikis this is e.g. English (en) for Meta and Commons, German (de) for de.wikipedia.org, etc.

The user language determines the interface texts; also the page *body* may depend on the user language, because the result of parser function *int* does, and hence also the result of templates which call that function directly or indirectly (see [Category:User interface language dependent templates](#)).

In principle for every language a set of ca. 1800 **system messages** in that language is provided in the **message file** `languages/messages/Messagelanguagecode.php`. With language code "qqx" the message keys are returned (check how it works: https://meta.wikimedia.org/w/index.php?title=Help:System_message&uselang=qqx).

MediaWiki supports over 330 languages. For completeness of the language files see [localization statistics](#).

As of October 2007 there were ca. 100 languages with a Wikipedia but without a language file. These Wikipedias usually had English as site language, and/or [translated the interface locally](#). However, nowadays creating the language file is a condition for opening a new language edition of Wikipedia, see [Meta:Language proposal policy#Requisites](#), and the translation is done on translatewiki.net, so that number has decreased to a handful.

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MediaWiki namespace

The **MediaWiki namespace** is one of the 16 standard MediaWiki [namespaces](#). It allows [administrators](#) to change the default system messages. The MediaWiki namespace is enabled by `$wgUseDatabaseMessages=true`; , which is the default.

For example, see [MediaWiki:Aboutpage](#), [MediaWiki:Aboutpage/fr](#), and [MediaWiki:Aboutpage/de](#).

However, `MediaWiki:Sidebar/language_code` does not work (for a [sidebar](#) for users with that interface language); instead, the page `MediaWiki:Sidebar` can refer to message IDs which provides link labels dependent on the user-specified interface language. If the message is neither defined in the message file concerned, nor on the MediaWiki page, the message in the message file for English is used.

When viewing a "non-existing" page of which the name is an existing message name, the page shows the default. A "non-existing" page can be recognized by the lack of a history link. When editing such a page, the default is automatically preloaded into the edit window. Transclusion of a "non-existing" page in the MediaWiki namespace trancludes the default.

For the names of all "existing" pages see [@](https://meta.wikimedia.org/w/index.php?title=Special:Allpages&from=MediaWiki:%21) (<https://meta.wikimedia.org/w/index.php?title=Special:Allpages&from=MediaWiki:%21>)
[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

For all supported languages, all default messages and current versions can be viewed at **[Special:Allmessages](#)**. When creating a page to override the default it is useful to first save the default version, to allow diffs with it.

An administrator with access to the language files can choose between adapting these and creating pages in the MediaWiki namespace. The latter makes it easier to update to a new version of MediaWiki while keeping the own versions of messages. On the other hand, it is easier to transfer a language file to another MediaWiki site than to export and import pages, for the benefit of users who have selected the language concerned as interface language.

Also, an administrator can add extra pages to the MediaWiki namespace, to be accessed, for example, by function *int* (e.g. [MediaWiki:Lang](#)), or by a [gadget](#). These are not shown in [Special:Allmessages](#).

An extension can set e.g. message key aaa to bbb by:

```
global $wgMessageCache;  
$wgMessageCache->addMessages( array ( 'aaa' => 'bbb' ) );
```

The key has to start with a lowercase letter, even though message files define messages using an ID written with a capital, and even though the corresponding MediaWiki page has a capital after the colon, in this case [MediaWiki:Aaa](#), even on wikis which allow a lowercase first letter in page names. (The default content of [MediaWiki:aaa](#) becomes bbb, but changing it has no effect.)

After getting the array `$ma` of extension messages:

```
$ma = $wgMessageCache->getExtensionMessagesFor( 'en' );
```

the value can be retrieved with `$ma['aaa']`, e.g. by:

```
$wgOut->addWikiText( $ma[ 'aaa' ] );
```

The result after possible overriding by the contents of the MediaWiki page can be retrieved by `wfMsg('aaa')`.

This applies not only for a message in the strict sense; for example, an extension can allow the user community, through an administrator, to supply parameters in this way; this can even be the name of an extension tag, see e.g. [mw:Extension:PropertyTable](#), where the tag `<properties>` is the default, but e.g. the tag `<pr>` can be used after creating the page "[MediaWiki:propertyTable tag](#)" with the content "pr" (but note that for portability of wikitext across wikis with the same extension this flexibility has also disadvantages).

All characters of namespace prefixes are case-insensitive, so one can write "mediawiki:".

[LocalSettings.php](#) can set messages too, see [thread](http://lists.wikimedia.org/pipermail/wikitech-l/2009-March/042148.html) (<http://lists.wikimedia.org/pipermail/wikitech-l/2009-March/042148.html>).

MediaWiki before version 1.9.x

The concept of messages has changed in [release 1.9.x](http://svn.wikimedia.org/svnroot/mediawiki/tags/REL1_9_0/phase3/RELEASE-NOTES) (http://svn.wikimedia.org/svnroot/mediawiki/tags/REL1_9_0/phase3/RELEASE-NOTES) (January 10, 2007). Before, there existed a page for each message, even if it was the default. On upgrade, all pages with default messages are deleted.

Protection

By default, the whole MediaWiki namespace is protected. This is necessary for a number of reasons:

- Many messages are in plain HTML, hence users could insert malicious scripts
- Vandalism of some messages would be extremely disruptive, for example changes to the text of the links in the sidebar would immediately be visible to all users

On the other hand, especially for pages *MediaWiki:message_ID/language_code* the protection is somewhat impractical because administrators do not know all the languages that can be set for the user interface.

If an administrator wishes to allow general editing of a system message, a template call can be placed in the MediaWiki page, with the template containing the message itself.

A few messages can in theory cause the software to stop working if they are changed, for example "linktrail". Therefore and for processing efficiency the effect of page *MediaWiki:Linktrail* has been disabled: the software ignores its contents, taking the regular expression straight out of the message files.

Technical details

The namespace number of MediaWiki messages is **8**, with a corresponding MediaWiki talk namespace **9** to discuss individual messages. Some MediaWiki wikis offer templates like *w:template:editprotected* (*talk edit* (<https://en.wikipedia.org/wiki/template:editprotected?action=edit>) *history* (<https://en.wikipedia.org/wiki/template:editprotected?action=history>) *links* (<https://en.wikipedia.org/wiki/Special:Whatlinkshere/template:editprotected?limit=1000>)) to propose modifications, others have a page like *Meta:Requests for help from a sysop or bureaucrat* for this purpose.

For links to MediaWiki messages, existence detection applies to existence of the message, not existence of the page:

- "[[mediawiki:1movedto2]]" → "*mediawiki:1movedto2*" [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5Bmediawiki%3A1movedto2%5D%5D%22&removecomments=true>) - link to non-existing page (view mode) for existing message
- "[[mediawiki:1movedto3]]" → "*mediawiki:1movedto3*" [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5Bmediawiki%3A1movedto3%5D%5D%22&removecomments=true>) - link to non-existing page (edit mode) for non-existing message
- "[[w:de:MediaWiki:Edit]]" → "*w:de:MediaWiki:Edit*" [4] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5B%5Bw%3Ade%3AMediaWiki%3AEdit%5D%5D%22&removecomments=true>)
- "[https://meta.wikimedia.org/wiki/MediaWiki:Edit?action=render_demo]" → "*demo*" (<https://meta.wikimedia.org/wiki/MediaWiki:Edit?action=render>)" [5] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%5Bhttps%3A%2F%2Fmeta.wikimedia.org%2Fwiki%2FMediaWiki%3AEdit%3Faction%3Drender+demo%5D%22&removecomments=true>)

Each message in the `$wgAllMessagesEn` array in *Messages.php* (<http://svn.wikimedia.org/svnroot/mediawiki/trunk/phase3/languages/Messages.php>) corresponds to a page in the MediaWiki namespace. For example, there is a line in the php file:

```
'protect-text' => 'Protect-text',
```

To this corresponds the page *MediaWiki:Protect-text*, and "`{{int:Protect-text}}`" → "

You may view and change the protection level here for the page **\$1**.

By default, protections last indefinitely. To specify an expiry, enter a length of time or an expiration date.

- Do not use non-integer values, such as "2.37 weeks" or "1.84 days", as these may be incorrectly formatted by the MediaWiki software.
- Please note, *all* protections are removed at expiration time, regardless of the prior state of protection.

" [6] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bint%3AProtect-text%7D%7D%22&removecomments=true>). When this page is edited the new message is automatically used for say https://meta.wikimedia.org/wiki/Main_page?action=protect. Similarly *w:fr:MediaWiki:Protect-text* has the content *Confirmer la protection*, note that the page name itself is not translated.

Transclusion

Transclusion of a system message can be done with the regular transclusion syntax for the MediaWiki page, even if the page does not exist and the default is used:

"{{mediaWiki:edit}}" → "Edit" [7] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BmediaWiki%3Aedit%7D%7D%22&removecomments=true>), the content of MediaWiki:Edit, or if it does not exist, the system message with id "edit" for the site language

Also, parser function **int** can be used (for an application, see e.g. Template:Ed):

"{{int:edit}}" → "Edit" [8] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bint%3Aedit%7D%7D%22&removecomments=true>), the content of MediaWiki:Edit/xx where xx is the user language, or if it does not exist, the system message with id "edit" for this language.

If there is neither a page nor a default the result of "int" is different from "MediaWiki:" even if the user uses the default interface language of the site:

"{{mediaWiki:erehwon}}" → "MediaWiki:Erehwon" [9] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BmediaWiki%3Aerehwon%7D%7D%22&removecomments=true>)

"{{int:erehwon}}" → "<erehwon>" [10] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bint%3Aerehwon%7D%7D%22&removecomments=true>)

Messages defined in extensions, even if they are in Special:Allmessages, may or may not be transcluded:

"{{mediaWiki:dynamicpagelist noresults}}" → "MediaWiki:Dynamicpagelist noresults" [11] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BmediaWiki%3Adynamicpagelist+noresults%7D%7D%22&removecomments=true>)

"{{mediaWiki:expandtemplates}}" → "Expand templates" [12] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7BmediaWiki%3Aexpandtemplates%7D%7D%22&removecomments=true>)

However many messages are not suited for inclusion, because they contain **\$1** and similar parameters not evaluated by the template parser, or raw CSS and XHTML markup not permitted on normal pages.

While \$1, \$2, etc. do not work as parameters when using "mediawiki":

- "{{mediawiki:revertpage|a|b}}" gives "Reverted changes by **\$2** (talk) to last version by **\$1**" [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bmediawiki%3Arevertpage%7ca%7cb%7D%7D%22&removecomments=true>)

they do when using "int":

- "{{int:revertpage|a|b}}" gives "Reverted changes by **b** (talk) to last version by **a**" [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bint%3Arevertpage%7ca%7cb%7D%7D%22&removecomments=true>)

Error messages

Error messages are in the site language, e.g. "{{#expr:a}}" → "**Expression error: Unrecognized word "a".**" [15] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3Aa%7D%7D%22&removecomments=true>). This allows branching depending on the type of error, independent of the user language. Note however that wikitext for such branching has to be adapted when transferring it to a wiki with an other site language. This is not needed in the case of branching depending on whether any error occurs, with #iferror.

Interlanguage links

Interlanguage links in MediaWiki messages typically do not work: noinclude tags and the link syntax may not be interpreted.

Instead, one can use in-page interlanguage links on the talk pages, Template:Ilm does this for some major MediaWiki wikis.

Strings exclusive to language file

Some text strings cannot be customised using this feature, and so can only be changed by editing the language file:

- The namespace titles "User", "Wikipedia", "Image", etc. (\$namespaceNames)
- The names of the special pages (\$specialPageAliases)
- \$skinNames (shown in Special:Preferences)
- \$bookstoreList
- \$separatorTransformTable
- \$linkTrail
- \$dateFormats

Branching based on the user language

We have seen that the result of expansion of wikitext can depend on the user language through the use of "int". The exact behaviour with that regard is not completely clear and may change in the future (see in particular bugs 1495 and its duplicate 8188 for Commons, 13010 and 2085; \$wgForceUIMsgAsContentMsg).

In addition to the possibility of directly storing the alternative texts in the MediaWiki namespace we can also use "int" only to find the code of the user language, and then use any branching method.

The code of the user language is not directly available, but can be obtained with {{int:lang}} after creating a collection of pages Mediawiki:lang/xx, each containing the corresponding language code xx, see e.g. [16] (http://commons.wikimedia.org/w/index.php?title=Special%3APrefixIndex&prefix=lang&namespace=8):

 "{{int:lang}}" → "en" [17] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7Bint%3Alang%7D%7D%22&removecomments=true) (gives the code of the user language if the MediaWiki page has been created, otherwise <lang>)

and using Template:Uselang:

 "{{uselang}}" → "en" [18] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7Buselang%7D%7D%22&removecomments=true) (gives the code of the user language if the MediaWiki page has been created, otherwise en)

Thus, while internationalization of month names can be done directly:

 "{{int:January}}" → "January" [19] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7Bint%3AJanuary%7D%7D%22&removecomments=true)

we can now adapt the format to the language, e.g.

 17 {{#switch:{{int:lang}}|de=.}} {{int:January}} 2010 gives 17 January 2010.

or more generally, apply Template:Date, where the default language is the user language, determined inside the template.

If a separate page is used for every language version, this is commonly done with the naming scheme pagename/xx for the language with code xx (just like in the MediaWiki namespace). The templates in Category:Autotranslated templates use Template:Autotranslate, which is based on this naming scheme, and selects the local version of a template. It checks existence and applies a fall-back scheme (see also commons:Template:Fallback). If the tasks of the language versions have much in common, such as computations, or formatting unrelated to language, then it is practical to let them call a common auxiliary template, with language specific data as parameters, such as texts, see e.g. Template:Unblock granted/layout, commons:Template:Creator/layout, commons:Template:Museum/layout, and commons:Template:TemplateBox/layout.

See also

- w:Wikipedia:Editnotice
- mw:Localisation
- mw:Localisation statistics
- The message cache - possibly not up-to date

- [MediaWiki namespace in version 1.2.6](#)
- [w:Wikipedia:MediaWiki namespace](#)
- [Help:User style](#) - site-wide CSS and JS is partly defined in "system message" "common.css", etc.
- [mw:Extension:Multilang](#) - extension to create content depending on the user-specified interface language
- [Special:Allmessages](#) in various languages: de (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=de>) eo (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=eo>) en (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=en>) fr (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=fr>) he (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=he>) id (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=id>) ja (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=ja>) la (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=la>) nl (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=nl>) yue (<https://meta.wikimedia.org/w/index.php?title=Special:Allmessages&uselang=zh-yue>)
- [List of Wikipedias/sortable](#) (column Lif) - links to [Help:Interface demo](#) with uselang=xx, for showing the interface on Meta with a specified interface language.
- [message files](#)
- [Meta:Language select](#) - internationalization system where all translations are sent to the browser; through css in combination with JavaScript the text in the browser language is displayed, with a selection box to choose another language; if the browser language or selected language is not supported, or by pressing a button, all translations are shown

Links to other help pages

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[Meta](https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) (<https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikinews](https://en.wikinews.org/wiki/Special:Allpages?namespace=12) (<https://en.wikinews.org/wiki/Special:Allpages?namespace=12>) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) (<https://en.wikipedia.org/wiki/Special:Allpages?namespace=12>) · [Wikiquote](https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) (<https://en.wikiquote.org/wiki/Special:Allpages?namespace=12>) · [Wiktionary](https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) (<https://en.wiktionary.org/wiki/Special:Allpages?namespace=12>) · [Commons](https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12): (<https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12>) · [Wikidata](https://www.wikidata.org/wiki/Special:Allpages?namespace=12) (<https://www.wikidata.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=12>) · [Wikibooks](https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) (<https://en.wikibooks.org/wiki/Special:Allpages?namespace=12>) · [Wikisource](https://en.wikisource.org/wiki/Special:Allpages?namespace=12) (<https://en.wikisource.org/wiki/Special:Allpages?namespace=12>) · [MediaWiki: Manual](https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) (<https://www.mediawiki.org/wiki/Special:Allpages?namespace=100>) · [Google](#)

Versions of this help page (for other languages see further)

What links here on [Meta](#) or from [Meta](#) (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:System_message) · [Wikipedia](https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:System_message) (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:System_message) · [MediaWiki](https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:System_message) (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:System_message)

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Help:Substitution

Substitution is automatic conversion of wikitext of a page when the page is saved, in the case that the wikitext refers to one or more templates, variables, or parser functions.

In the case of template substitution the template call is replaced by the template content with substitution of the parameters. Thus a template is used as macro and the page is macro expanded when the page is saved rather than, as usually happens, when the page is viewed.

In the case of substitution of a variable or parser function the reference to it is replaced by the resulting value.

Substitution is done by putting the modifier **subst:** or **safesubst:** after the double opening braces without intervening spaces like in the examples: `{{subst:FULLPAGENAME}}` and `{{safesubst:FULLPAGENAME}}`. The code `safesubst:` is useful in multilevel substitution, see below.

The result (in the form of the difference with the saved wikitext) can be seen before (or without) saving by pressing "Show changes". However, if the text covers more than one paragraph this diff page is not very suitable for copying the result (e.g. for stepwise substitution without saving every step), because of plus signs in the margin.

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Applications

Substitution of a template:

- Make a rendered page independent of the template:
 - The rendered page does not change when the template is edited.
 - The page can be copied to another MediaWiki wiki without copying the template.
- Make page rendering easier and therefore faster for the server.
- Analyse and demonstrate the working of templates. However, in some cases substitution works differently.
- Make the correspondence between wikitext and rendered page easier to understand (this may apply, the opposite may also apply).

Substitution of a time-dependent variable:

- Make a rendered page independent of the time.

Substitution of a page-dependent variable:

- Make a rendered page independent of renaming of the page and of copying the wikitext to another page (the opposite applies if the variable `PAGENAME` is used in a no-include part of the page to include the page itself).

Some MediaWiki extensions have the restriction that if they are used in a template with parameters, they only work if the template is substituted. This applies for example in the case of a template parameter inside an in-page query in Semantic MediaWiki.

Overview

Like on the page Help:Expansion, on this page templates, parser functions and variables are collectively called *templates* in italics, and a triple-braced wikitext referring to a template parameter, and possibly specifying a default value, is called a *tplarg*.

A save command potentially starts a substitution process which modifies the wikitext before saving. For any substitution to occur there has to be at least one explicit occurrence of `subst:` or `safesubst:` on the page, in a *template*, immediately after the opening braces.

The new wikitext is equal to what the expanded wikitext in transclusion would be, resulting from the wikitext without these occurrences of `subst:` or `safesubst:`, while not expanding *templates* without `subst:` or `safesubst:`, and not expanding a *tplarg* on the page itself to this default, even though in substituted templates the default mechanism does work. (There is no prefix for substituting a *tplarg*, it is substituted if and only if the page in which it occurs is substituted. This is not the case if a *tplarg* is on the page itself, because this page is neither substituted nor transcluded.) In directly and indirectly substituted templates, again only *templates* with `subst:` or `safesubst:` are expanded.

If the substituted *title* is inside another *title* it may construct a text `subst:` or `safesubst:` causing that other title to be substituted too, etc. A text `subst:` or `safesubst:` in a substituted template can also be constructed with a *tplarg* (parameter value or default value).

A code `subst:` or `safesubst:` before a name that is not a valid variable or parser function name, and not the name of an existing template, does not result in substitution, and the prefix is kept in the wikitext.

After the substitution process, the new wikitext is expanded as usual for rendering the page.

Examples:

- `{{subst:Help:L{{tc}}k}}` using `Template:Tc`, does not do substitution, because `Help:L{{tc}}k` is not an existing page, although in the regular expansion phase `Help:L{{tc}}k` expands to `Help:Link`. Thus the resulting wikitext is the same as the original wikitext and in the regular expansion phase expanded to `{{subst:Help:Link}}`.

- `{{subst:#if:{{ns:0}}|yes|no}}` gives the wikitext "yes", while `{{subst:#if:{{subst:ns:0}}|yes|no}}` gives the wikitext "no", and `{{#if:{{ns:0}}|yes|no}}` expands to "no".

The wikitext resulting from full substitution is not always equal to the expanded wikitext of transclusion: a *tplarg* with default on the page itself is not replaced by the default in the substitution phase, while in transclusion it does expand to the default. This can affect the result of a parser function that is directly or indirectly applied to the *tplarg*.

Example:

- `{{#expr:2*{{p|3}}}}` is expanded to 6, while `{{subst:#expr:2*{{p|3}}}}` is replaced by the wikitext `<strong class="error">Expression error: Unrecognised punctuation character "{"/strong>`.

On substitution of a template that contains this, `{{p|3}}` is either replaced by the value of `{{p}}` or by 3, so then there is no difference.

`{{t6}}` using `Template:t6` containing "`t2demo|a`" expands to `{t2demo|a}`; `{{subst:{{subst:t6}}}}` gives the wikitext `{{subst:t2demo|a}}` rendered the same as the wikitext, and on the next edit/save changed into `start-a -middle-{{2}}-end`; `{{subst:t6}}` gives the wikitext `{t2demo|a}`, rendered as `start-a -middle-{{2}}-end`. This is because, both without substitution and in the case of full substitution, the pipe characters in template calls, excluding those inside inner template calls, template parameters, links, and image tags, determine the separation of parameter definitions from each other and from the template name. This separation does not depend on possible extra pipe characters in the expanded form of the template name and parameter definitions. However, if after substitution of an inner template the pipe character is in the outer template call it is one like any other and plays its part in determining the separation. In other words, parsing is done first once for substitution, and then once for rendering, but in both cases not an extra time in between. In the case of substitution of the inner template only, two subsequent parsings are effective.

If a page substitutes itself (e.g. in the `noinclude`-part of a template page) it substitutes the old version.

Usage considerations

As mentioned, a change of an ordinary template after substitution does not affect the page in which it was substituted, and a substituted variable depending on time no longer depends on time, etc. However, a substitution of e.g. `{{#expr:2*3}}` does not affect rendering at all.

The relationship between wikitext of a page and its rendering can become easier to understand after substitution, because one has all wikitext together, and parameter substitutions have been performed.

It can also become more complex. Separately focusing on understanding a template call and understanding the template content can be easier. Wikitext after substitution is often more complex than when the required wikitext would have been written directly.

Unlike a template call (if one knows about templates), wikitext after substitution does not show how one can produce a similar result. The wikitext can be long and complicated, and therefore cumbersome to *write* directly, or it can be simple, e.g. a number resulting from a computation, but cumbersome to *find* directly. When studying the wikitext of a page one may think that this wikitext is what one is supposed to write and find directly to get the result, even in cases where that would be very impractical.

In such cases documentation of the template call is useful. Just like in computer programming we change the source code and/or the data to produce new results, and we do not directly change the object file, here we would change the template calls and/or the templates, instead of changing the wikitext resulting from substitution directly.

Ordinary templates

In the case of substituting an ordinary template, the template tag is replaced by the wikitext of the template, with the parameter values substituted for the parameters.

Example: Template:T2, containing

```
start-{{{1}}}-middle-{{{2}}}-end
```

and called as `{{subst:t2|[[a]]|{{tc}}}}` (see `{{tc}}`) gives the wikitext:

```
start-[[a]]-middle-{{tc}}-end, rendering as
start-a-middle-{{t1c|...}}-end.
```

Substitution removes the `noinclude` parts and the `includeonly` tags.

Parameters:

- A substitution with `p=r` replaces `{{{p}}}` and `{{{plq}}}` by `r`; this includes the cases that `r` is of the form `{{{s}}}` or `{{{slt}}}`.
- A substitution with undefined `p` preserves `{{{p}}}` and replaces `{{{plq}}}` by the default `q`.

With "subst:" the replacement of a template tag by wikitext does not work recursively. For full recursive substitution use Special:ExpandTemplates. See also substall, and multilevel substitution below.

Stepwise substitution of templates including other templates including more templates etc. can be useful for analyzing and documenting the behaviour of complex templates.

However, after a substitution a page may render differently, e.g. if templates produce braces, pipes, and/or equals signs which after substitution determine expansion of other templates, but without substitution are treated as plain text.

In the absence of parameters, template substitution can be compared with copying the wikitext, or the rendering of a previewed or saved `{{msgnw:pagename}}` inclusion. However, template substitution excludes `<noinclude>` parts, removes `<includeonly>` tags, and replaces undefined parameters with defaults by the defaults.

Predefined templates

In the case of substituting a predefined template, without parameters depending on other templates, the tag is replaced by the result.

Note: `subst:` has to be added directly in front of the predefined template name **without intervening spaces**.

Applying `subst` to a variable works like applying it to a template. E.g. a timestamp:

```
{{subst:CURRENTYEAR}}-{{subst:CURRENTMONTH}}-{{subst:CURRENTDAY}} T
{{subst:CURRENTTIME}} [[w:UTC|]]
```

may give the wikitext

rendered as

2010-04-10 T 06:30 UTC

In the case of substituting a predefined template with a parameter depending on another template, that has to be substituted too, with a separate `subst:` modifier, otherwise the result is undefined.

- `{{subst:UC:{{subst:tc}}}}` gives IN, the same wikitext as `{{UC:{{tc}}}}` is expanded to; UC: is applied to the output "**in**" of Tc.
- `{{subst:ns:{{subst:#expr:2*3}}}}` gives File.
- `{{ns:{{subst:#expr:2*3}}}}` gives wikitext `{{ns:6}}` rendered as File.
- `{{subst:t1|{{subst:NAMESPACE}}}}` gives the wikitext `startHelpend` (see `{{t1}}`)
- `{{subst:t1|{{subst:#expr:3*4}}}}` gives the wikitext `start12end`
- `{{subst:t1|{{subst:uc:AbCdEf}}}}` gives the wikitext `startABCDEFend`
- `{{subst:#expr:{{subst:3Xl11*}}1}}` gives the wikitext `1331`
- `{{subst:UC:{{subst:3Xlabc}}}}` gives the wikitext `ABCABCABC`
- `{{subst:LC:{{subst:#expr:1/100000}}}}` gives the wikitext `1e-05` (see LC:)
- `{{subst:#expr:2*{{subst:CURRENTDAY}}}}` gives (at the time of writing) the wikitext `30`
- `{{subst:UC:{{subst:CURRENTDAYNAME}}}}` gives (at the time of writing) the wikitext `THURSDAY`

However:

1. `{{subst:UC:{{tc}}}}` gives the wikitext `{{TC}}` rendered as Template:TC.
2. `{{subst:ns:{{#expr:2*3}}}}` stays `{{subst:ns:{{#expr:2*3}}}}`, rendered as `{{subst:ns:6}}` (see ns:).

As mentioned before, on substitution, all calls without substitution of templates, variables, and parser functions are treated as plain text. As a result substitution of the outer `x:` in a nested `{{ x: . . . {{ y: . . . }} }}` often is only suitable if all inner `y:` are also substituted.

In the case of substitution of a predefined template, if the expression for one of its parameters contains `{{{p|3}}}` with undefined `p`, this code reduces to `3`. However, on the page itself, `{{{p|3}}}` is treated as such, not as `3`.

Examples:

- `{{#expr:2*{{{p}}}}` gives **Expression error: Unrecognized punctuation character "{"**.
- `{{#expr:2*{{{p|3}}}}` gives 6
- `{{subst:#expr:2*{{{p|3}}}}` gives **Expression error: Unrecognised punctuation character "{"**
- substituting a template containing `<includeonly>subst:</includeonly>#expr:2*{{{p|3}}}` or `{{{{subst}}#expr:2*{{{p|3}}}}` gives 6 if `p` is not assigned a value, and twice the number `p` if it *is* assigned a value.

Compare:

- `{{uc:2*{{{p}}}}` gives `2*{{{P}}}`
- `{{uc:2*{{{p|q}}}}` gives `2*Q`
- `{{subst:uc:2*{{{p|q}}}}` gives the wikitext `2*{{{PIQ}}}` rendered as `2*Q`

and also (from above):

- `{{subst:UC:{{subst:tc}}}}` gives IN, just like `{{UC:{{tc}}}}` does; UC is applied to the output "**in**" of Tc.
- `{{subst:UC:{{tc}}}}` gives the wikitext `{{TC}}` rendered as Template:TC.

In the substitution of UC, the inclusion tag `{{tc}}` is treated as string just like `{{{p|q}}}`.

Partial substitution

Inside an ordinary template one can apply substitution to an ordinary template call containing a parameter, to replace it by the direct wikitext containing the parameter. It amounts to automatically merging the two templates (creating a "composite template" like a [composite function](#)). It is not possible if the inner and/or outer template is predefined. (However, manually merging e.g. a call of `#expr` inside another one is useful for increasing the accuracy of the result by avoiding intermediate rounding to 12 digits.)

This way one can dispense with the optional substitution technique described below, and apply substitution of the resulting outer template by simply using "subst:" (unless there are more nesting levels).

Example:

- `{{subst:t}}` gives the wikitext `start-{{{1|pqr}}}-end`, just that of [Template:T](#), without `noinclude` parts and `includeonly` tags
- `{{subst:tl{{{plq}}}b}}` gives the wikitext `start-a{{{plq}}}b-end`

Examples with double substitution:

- `{{subst:3Xl{{{subst:t}}}}` gives the wikitext `start-{{{1|pqr}}}-endstart-{{{1|pqr}}}-endstart-{{{1|pqr}}}-endstart-{{{1|q}}}-end`
- `{{subst:3Xl{{{subst:tl{{{1|q}}}}}}}` gives the wikitext `start-{{{1|q}}}-endstart-{{{1|q}}}-endstart-{{{1|q}}}-end`

Multilevel substitution

When substituting a template it may be desirable to carry out a substitution inside the template too. This can be done with "safesubst:" in the template. To prevent premature substitution (i.e., when the template is saved), and to control whether single- or multilevel substitution is applied, this code is provided as default value of an otherwise unused parameter. Since the empty string is a possible but for other purposes uncommon parameter name, it is usually a suitable choice for the name of this parameter, so we can use the code `{{{ | safesubst: }}}`.

The difference with `{{{ | subst: }}}` is that `{{{ | safesubst: }}}`, evaluating to `safesubst:` if the parameter with the empty string as name is undefined, not only allows multilevel substitution but also multilevel transclusion, because on transclusion it is ignored. With `{{{ | safesubst: }}}` it is still possible to perform one-level substitution by assigning to the parameter with the empty string as name, the empty string as value, e.g. `{{subst:if|=|expr|1|a}}`.

Sometimes a template call defines a value of the parameter with the empty string as name, just for inserting this value as comment inside the template tag, or for lay-out of the template tag, see [template tag lay-out](#). When enabling multilevel substitution for such a template, one of the two parameters needs to be given another name.

If the name of the inner template, parser function or variable depends on a parameter without default, then we can simply put `safesubst:`, because premature substitution is not possible anyway. However, this does not allow us to control whether single- or multilevel substitution is applied,

Multilevel substitution with independent control of each substitution separately

Parameters `subst1`, `subst2` (or whatever names one chooses) can be used with "safesubst:" and the empty string as possible values. Thus we can control for each template, parser function and variable separately (or group them, and control per group) whether it is substituted too when the outer template is substituted. Either possibility can be made the default.

Inner templates with parameters may control further inner substitutions in the same way; these parameters may depend on the substitution parameter controlling the substitution of the inner template, since if that is not substituted, inner substitutions within that template are not possible.

For example, if template T uses parameter subst1:

- with the empty string as default, T calls inner templates and parser functions prefixing their names with `{{subst1|}}`; for calling T we can use:
 - `{{tl..}}` (no substitution)
 - `{{subst:tl..}}` (one-level substitution)
 - `{{subst:tlsubst1=subst:l..}}` (two-level substitution)
 - `{{subst:tlsubst1=safesubst:l..}}` (ditto)
- with default "safesubst:", T calls inner templates and parser functions prefixing their names with `{{subst1|safesubst:}}`; for calling T we can use
 - `{{tl..}}` (no substitution)
 - `{{subst:tlsubst1=l..}}` (one-level substitution)
 - `{{subst:tl..}}` (two-level substitution)

To transfer the choice of substituting or not to templates and parser functions called inside the inner templates of T, we can add to the call of these inner templates something of the form `subst2={{subst1|}}` or `subst2={{subst1|safesubst:}}`, respectively (parser functions and variables don't get the additional parameter).

See also [Help:Calculation#Substitution](#) and [Template:Example table with computations, with optional substitution](#).

Partial substitution

Using a template prepared for optional `subst=subst`: only with ordinary substitution, without specifying parameter values, allows to insert its code into another template, like copy and paste, but all `<noinclude>` parts and `<includeonly>` keywords automatically stripped. Executing inserted code instead of calling it may be more efficient for the server.

A typical example for this technique is expanding, within another template, a template used as test expression in a `#switch`: like [Template:Oom](#):

1. Development code:
`{{#switch: {{oom|parameter tag }} | 0=case 0 etc.}}`
2. Standard solution:
`{{{{{subst|}}}#switch: {{{{{{subst|}}}oom|parameter tag |subst={{subst|}}}} | 0=case 0 etc.}}`
3. Better solution: create template code by applying substitution using this wikitext:
`{{{{{subst|}}}#switch: {{subst:oom|parameter tag }} | 0=case 0 etc.}}`

[Template:oom](#) is prepared for optional substitution, therefore both solutions work, but the latter solution substituting its code is simpler and more efficient.

See [Template:csn](#) and [Template:lz12](#) for cases where [Template:oom](#) was substituted in this way.

If a template uses a parameter whose name is an expression containing a template or parser function, and the template is called with a corresponding parameter definition (in terms of the final name of the parameter) it expands properly only if at the time of expansion of the template the expression for the name of the parameter is or has been

evaluated. Thus if the template is substituted without substituting the expression for the parameter name, the parameter definition is "lost", so the parameter becomes undefined. Therefore in such a case no substitution can give the same rendered result as full substitution, while partial substitution gives a different result. See e.g. [Template:Ts1](#).

Composite operations

By `{{A|{{B|p}}}}` a template A is called with, as parameter, a call of template B with a parameter p. We could integrate such template calls to a single call `{{C|p}}` of a "[composite template](#)" C with parameter p.

The wikitext for template C would be `{{A|{{B|{{1}}}}}}`, or with optional substitution the following construct:

**`{{ {{subst|}} A|{{ {{subst|}} B|{{1}} |subst={{subst|}} }} |subst={{subst|}} }}`
The `subst={{subst|}}` is only necessary for recursive substitution as explained above.**

Note that it is not useful to specify "`{{subst|subst:}}`" since in the substitution phase this tag does not reduce to the default "subst:".

If A and/or B is predefined the construct is similar, but without `subst={{subst|}}` for that template.

Includeonly

A more primitive method of multi-level substitution, without the option of single-level substitution, is with a pair of `includeonly` tags. Substitution is prevented by having the template call inside these tags. Substitution is also prevented by having one or both tags anywhere in the template call except inside a parameter definition. Thus the tag(s) can be before, inside, or after "`safesubst:`" or "`subst:`", or inside or after the template name. The positions of the two tags only influence the rendering of the template page itself.

The form `{{<includeonly>safesubst:</includeonly>something}}` suggests that substitution is prevented by discarding "`safesubst:`" on the page itself, but actually substitution is prevented because the `safesubst`-syntax is disturbed by the tags.

It doesn't substitute "*something*" at the time of the creation of the relevant template, but has the desired effect when the template is substituted.

For examples see "`preload`" in [Extension:InputBox](#) and "`substitution`" in [Help:Variable](#).

Creating a page which applies substitution on the next save

See [Help:Recursive conversion of wikitext](#).

Forced substitution

Some templates deliberately refuse to work without substitution, for an example see [w:en:Template:Conv-dist](#). This technique is essential for templates like [w:en:Template:Prod](#) producing some kind of timestamp, e.g. adding pages to dated categories.

The following code in any template T outputs a warning unless recursive substitution with `subst=subst:` is in effect:

`{{{{subst|}}}|ifdef|{{{{subst|subst:}}}|ns:0}}|''Warning''}}`.

1. Output for `{{T}}` or `{{subst:T}}`: **Warning**,
2. output for `{{T|subst=subst:}}`: **Warning**,
3. output for `{{subst:T|subst=subst:}}`: nothing (no remaining wikitext).

This is a rare case where replacing ifdef by #if: doesn't work directly.

Substitution of part of the parameters

Let template A use parameters 1 and 2. Consider creating a template B with one parameter 1, corresponding to A, with a given value q of parameter 2. Pages containing `{{A|2=q}}` and `{{A|1={{1}}|2=q}}` are rendered the same, but the second has a parameter `{{{1}}` while the first does not. See e.g. Template:T ps.

However, with substitution (using "subst:" or Special:Expandtemplates) the resulting wikitext is the same, without distinction between a text `{{{1}}` and a parameter, it is a parameter anyway, so `"1={{1}}"` is not needed.

If A contains e.g. `#expr` with an expression containing both parameters the same applies, except that we can only substitute the highest level (A), not the parser function, so we cannot use Special:Expandtemplates.

In general, substituting a parameter and applying a template or parser function sometimes gives the same result as substituting the template or parser function with the triple-braced parameter code and then substituting the parameter.

Without defaults (all rendered the same in one-step substitution as without substitution):

Examples with equality:

- A template containing `p{{{1}}}q{{{2}}}`r substituted with `1=u, 2=v` gives `puqvr`; substituted with `2=v` it gives `p{{{1}}}qvr`, which itself, substituted with `1=u` gives also `puqvr`.
- Two-level substitution of a template containing `{{#if:{{{4}}}|{{{3}}}|p}}` with `3=u, 4=v` gives `up`; substituted with `4=v` it gives `{{{3}}}|p`, which itself, substituted with `3=u` gives `up`.

Examples without equality:

- Two-level substitution of a template containing `{{#if:{{{3}}}|{{{4}}}|p}}` with `3=, 4=v` gives the empty string; substituted with `4=v` it gives `vp`, which itself, substituted with `3=u` remains `vp`.
- Two-level substitution of a template containing `{{#if:{{{2}}}|{{{1}}}|p}}` with `1=u, 2=v` gives `up`; substituted with `2=v` it gives `{{{1}}}|pp` (the bug), which itself, substituted with `3=u`, gives `upp`.
- Two-level substitution of a template containing `{{#expr:{{{1}}}*{{{2}}}}` with `1=7, 2=8` gives `56`; substituted with `2=8` it gives `<strong class="error">Expression error: Unrecognised punctuation character "{"`, which itself, substituted with `1=7`, remains the same.

Thus without equality we may or may not get an error message.

One example shows that substitution of one parameter can be affected by the bug mentioned above. However, we can then replace e.g. `{{{1}}` by `{{{1|{{substvoid|}}void}}}` and do full substitution, except that `substvoid` is undefined, preventing the bug. The result works already correctly with transclusion. Subsequently it can be substituted with `substvoid=subst:` so that we get the plain `{{{1}}`.

With defaults:

Rendered the same as without substitution:

- Two-level substitution of a template containing `p{{{1|d}}}q{{{2}}}`r with `2=v` gives `p{{{1|d}}}qvr`.
- Two-level substitution of a template containing `{{#if:{{{4}}}|{{{3|d}}}|p}}` with `4=v` gives `{{{3|d}}}|p`.

Not rendered the same as without substitution:

- Two-level substitution of a template containing `{{#if:{{{3}}}|{{{4}}}|p}}` with `4=v` gives `vp`.
- Two-level substitution of a template containing `{{#if:{{{2}}}|{{{1d}}}|p}}` with `2=v` gives `{{{1d}}}|pp` (the bug).
- Two-level substitution of a template containing `{{#expr:{{{16}}}*{{{2}}}}` with `2=8` gives `<strong class="error">Expression error: Unrecognised punctuation character "{"`.

After substitution with the parameter definition:

- `{{subst:#if:{{{3}}}|vp}}` gives `vp`.
- `{{subst:#if:v|{{{1d}}}|p}}` gives `{{{1d}}}|pp` (the bug).
- `{{subst:#expr:{{{16}}}*8}}` gives `<strong class="error">Expression error: Unrecognised punctuation character "{"`.

Rewritten:

- `{{subst:#if:{{subst:#ifeq:{{{3+}}}|{{{3-}}}|vp}}}}` gives the empty string.
- `{{subst:#if:v|{{subst:#ifeq:{{{1+}}}|{{{1-}}}|{{{1}}}|d}}|p}}` gives `dp`.
- `{{subst:#expr:{{subst:#ifeq:{{{1+}}}|{{{1-}}}|{{{1}}}|6}}*8}}` gives `48`.

Documenting substitution; preservation of comments

Usage of a template through `subst`: does not automatically show up in page histories. Therefore providing the line of wikitext containing `"subst:"` in the edit summary is especially useful.

Also pages with a substituted template do not show up in backlinks, and the template does not appear in the list of transcluded templates on the edit page. The template could add pages to a category to track substitutions, but listing this category on a page may clutter the list of content-based categories the page is in. Also, comments outside `noinclude` tags are included in the wikitext. Thus a comment can be used to mention the template. Substitution of parameters inside comment tags does not work.

See also Help:Comment tags#Substitution.

See also

- mw:Extension:ExpandTemplates
- w:Help:Substitution#The safesubst: modifier
- w:Wikipedia:Template substitution - partly technical, partly policy
- bugzilla:2003 - feature request to allow marking a template as being substituted without `"subst:"`
- Templates containing a call to itself with `"subst:"` and producing a similar call with updated info, either replacing or adding to the previous info:
 - Template:Last edit - example: `{{subst:Last edit|Last edit of page Help:Substitution: 2018-08-26 T 06:22 UTC, by FeRDNYC (talk)`
 - Template:Page history

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Help:Array

This page deals with storage of data in pages, and retrieval of these data by the same and other pages. One advantage can be that making a change at one place automatically changes occurrences of the data item at more places. Also it can be easier to make multiple changes if several data are on a single page. This applies in particular if data likely to be changed at the same time (because updates become available together, or because an editor reviews these data together) are on the same page.

A versatile way of storing a data item is as the include part of a page (see also *Arrays with a template for each element*, below). It can then be used on the same and other pages, independent of other data. Less versatile variants are storing a data item as the part of a page applicable for the representation on the page itself only (such as the noinclude part, with the rest of the page includeonly), and storing a data item B between data items A and C, so that B can in principle not be retrieved separately, but only in the combination ABC. There is some more versatility if the data are stored as parameter values of a template call: by changing the content of the template the use of the data on the page can be changed.

Below are methods to extract subdata from a data item, or put differently, to construct a larger data item (a data structure) from smaller ones such that the smaller ones are independently retrievable. Where a matrix or 2D array is referred to, other terms like record and field may also be applicable. The term table is not used for a data collection, but reserved for the display format.

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Extraction of data from a string or number

A substring of up to 500 characters *starting at the start of a string* can easily be extracted. For other substrings (including single characters other than the first) this is expensive, and therefore mainly possible if they are short, somewhere in the first part of the string, and/or with for each position a small character set usually containing the character in that position. See Help:String functions. Whenever possible, if substrings of a string are needed it can best be stored as a collection of substrings. E.g., if for string ABCD we need the substring CD, then we can store (or pass on as parameter values) AB and CD as separate data items.

Data can also be stored in the form of numbers. For example, the date 17 July 2010 can be stored as 20100717, which is still fairly human-readable. Subdata such as digits (and in the example the day of the month, the month number, and the year) can be extracted by a computation. If the numbers represent discrete values, care should be taken that rounding does not cause wrong retrieval.

An expression of type integer such as trunc(9134567890e9)+trunc123456789 (length: 34, or if negative 35) can hold 64 bits. For non-negative ones we can use Template:Digit to retrieve the 63 bits, or 16 decimal digits (and also most 17-digit numbers).

An integer of 15 digits (corresponding to 50 bits) can be stored as float, or 53 bits can be stored in a 16-digit number. Again we can use Template:Digit to retrieve bits, decimal digits, etc).

- {{digit|12345678901234|4}} gives 1 [1] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%7B%7Bdigit%7c12345678901234%7c4%7D%7D&removecomments=true) (4th digit from the right)

Retrieval of 2-digit part:

- {{digit|12345678901234|4|100}} gives 78 [2] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%7B%7Bdigit%7c12345678901234%7c4%7c100%7D%7D&removecomments=true) (4th 2-digit number from the right)

If a 2-digit number represents a character according to something like the ASCII code, we can decode it with something like Template:Chrfn:

- {{chrfn|{{digit|12345678901234|4|100}}}} gives N

Thus a string can be stored in coded form, with (in the case of a character set of up to 100 characters) up to 7 characters in one number:

- "{{chr7|23091109}}" → "wiki" [3] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7Bchr7%7c23091109%7D%7D%22&removecomments=true)

If a data set is stored in coded form as a collection of numbers we can always after retrieving a number apply some final extraction and/or decoding.

Parameter selection templates

Templates that simply return one of the parameters (parameter selection templates, mathematically projections) are e.g. Template:P1, Template:P2, Template:P3,.. (list (http://meta.wikimedia.org/w/index.php?title=Special%3APrefixIndex&prefix=p&namespace=10)). They can be used to store data in wikitext of the form {{pindex|*data1*|*data2*|. . .}} where *index* is something that can vary, e.g. a template parameter, taking some positive integers as values.

There is also an older, small collection of templates with names of the form "Lang_name_-_*language referred to_(language used)*" (in fact, the pattern is an example of a generalized form of the name pattern, with a text, here a closing parenthesis, after the second index) with codes used for the two languages; the contents of each template is the word for a language, expressed in the same or another language, e.g. Template:Lang name - de (fr) contains "Allemand", which is "German" in French. (See list (http://meta.wikimedia.org/w/index.php?title=Special%3APrefixIndex&prefix=Lang+name+-&namespace=10); for diagonal elements such as Template:Lang name - de (de) there are, in addition, copies such as Template:Lang name - de). See also explanation page.

In the case of a 2D array *separator* and the possible values of *index1* and *index2* should be chosen such that there is no ambiguity. The separator is needed if just concatenating variable-length indexes could give the same result for different pairs, like (p,q,r) and (p,q,r). No separator is needed if at least one index is of fixed length, or e.g. if the first index consists of letters and the second of digits. The software does not need to parse *index1 separator index2*, but for convenient human parsing a separator such as a blank space may be preferred in some cases where it is not strictly needed.

Elements of a 1D array can e.g. be referred to inside a template with {{array-name {{{index}}}} using parameter *index*, or similarly with a variable. Also a page can successively call each array element using {{array-name index}} with varying *index*.

In the case of a 2D array, a template may have a row index as parameter and produce a list based on that row of the matrix, or similarly for columns. See e.g. Template:List of Languages.

A disadvantage of having a template for each array element is that it is extremely cumbersome to copy a large array to another project, unless a bot is used; a sysop may also apply export and import, if those features are enabled.

An advantage is that the absence of a data value shows up as a link to a non-existing template, allowing an individual data value to be added easily. Adding multiple values may be slower than when fewer templates have to be edited. Also, changes affecting multiple array elements are more convenient if they are can be made in the wikitext of a single page.

Associative array

Information like "Paris is the capital of France" can be stored in the form of an array (or row or column of an array) with Paris as first and France as second element (or conversely), using one of the methods mentioned above. However, it can also be stored in forms like, on one hand, {{#switch:{{{1}}}|..|Paris=France|..}} or {{{{{1}}}|..|Paris=France|..}}, or with a template Country Paris containing France, or, on the other hand in forms like {{#switch:{{{1}}}|..|France=Paris|..}} or {{{{{1}}}|..|France=Paris|..}}, or with a template Capital France containing Paris. For humans reading the wikitext, or if string functions are available to extract data from it, and in the case of the method of storing one data item in an array, used in combination with Special:AllPages, these methods are equivalent, but otherwise the functionality is quite different: one has to come up with the name of a capital to find the country, or conversely. In a way this functionality is more limited: to find all stored data one can only make a data dump like with msgnw; on the other hand, if the mentioned functionality is what one needs it is more convenient than e.g. searching through the first column of a 2D matrix A(i,j) to find an i with A(i,1)=Paris, which would require an extra switch operation.

The method {{{{{1}}}|..|Paris=France|..}} requires a template {{{1}}} to have a parameter Paris. This means that adding or changing a data item like the word Paris requires at least two changes: one in the template that holds the data, and one in the page/template that uses them.

This method is for example applied in w:Wikipedia:WikiProject Flag Template. w:Category:Country data templates contains ca. 1250 templates, e.g. w:Template:Country data Georgia, containing {{{{{1}}}|..|flag alias=Flag of Georgia.svg|..}}. Thus the set of templates forms an associative array A of 1250 rows with e.g. A(Georgia,flag alias)=Flag of Georgia.svg. Parameter names like "flag alias" (i.e. names of columns of the matrix) cannot easily be changed, as this requires a change in all 1250 templates, as well as in the templates {{{1}}} that use the data (or other pages/templates if this name is passed on as parameter). Alternatively one can introduce a second name for the column, e.g. "flag image", and change the pages/templates that refer to the column name to check both names for a value (unless one wants to reuse the old name for another matrix column). Change of a row name like Georgia requires renaming the template for that row; using the automatically created redirect, changing the templates {{{1}}} that use the data, or other pages/templates if this name is passed on as parameter, is not necessary, unless one wants to reuse the old name for another matrix row.

Summary of counts for template limits

technique	preprocessor node count ^[1]	post-expand include size	template argument size	extra for undefined item ^[4]
maximum	1,000,000	2,048,000	2,048,000	
call of a template that provides the data items as parameter values of a variable template, retrieving one or more data items (possibly with additional content from the variable template)	6, plus 1 for each defined parameter used (regardless of how many times each is used) plus 1 for each use of a parameter (including an attempt to use an undefined parameter, getting the default or the code with braces), plus 1 for each <i>named</i> parameter (used or not)	twice the size of the total result	length of the name of the variable template plus the total size of the retrieved data items	preprocessor node count 1 (nothing else if the empty string is the default)
in particular, applying this with a parameter selection template, i.e., retrieving just one data item and no other content	7, plus 1 if the parameter is defined, plus 1 if it is <i>named</i> , plus 1 for each of the (other) <i>named</i> parameters	twice the size of the result	length of the name of the variable template plus the size of the result	not applicable (retrieving one item at a time means the extra cost is the cost mentioned)
call of a template that provides the data items as possible result values of a switch	8 in the case of an immediate match, and 2 more for each extra step	twice the size of the result	length of the index	preprocessor node count 6, plus 2 for each case (excl. the default)
call of a template containing a single data item and no other content	2	size of the result	0	inclusion producing a red link: preprocessor node count 2, post-expand include size: 5+length of full page name; checking existence: more, or expensive parser function count 1/500

The last column refers to data items that are missing, or not applicable but not marked as such. It shows that in the case of a sparse matrix (i.e., one where most cells are empty) the first method is preferable.

Note that for the first technique, for row-wise retrieval of a 2D array (or a sub-array consisting of multiple columns), it is advantageous if each data template contains a row of the matrix, rather than a column.

In the case of retrieval according to a regular pattern one may want to use a template anyway (e.g. a row template for a table). In comparing the methods, take into account that the required template of the first technique can serve as such, while using the other techniques the use of a template increases the counts.

Template for a set of data items:

technique	preprocessor node count ^[1]	post-expand include size	template argument size
maximum	1,000,000	2,048,000	2,048,000
call of a template that provides the data items as parameter values of a variable template, retrieving one or more data items (possibly with additional content from the variable template)	6, plus 1 for each defined parameter used (regardless of how many times each is used) plus 1 for each use of a parameter (including an attempt to use an undefined parameter, getting the default or the code with braces), plus 1 for each <i>named</i> parameter (used or not)	twice the size of the total result	length of the name of the variable template plus the total size of the retrieved data items
call of a template that calls a separate template multiple times which provides each time a data item, using a switch	2, plus for each data item: 8 in the case of an immediate match, and 2 more for each extra step	size of the total result, counting the data items three times	for each data item the length of the index
call of a template that calls separate templates containing a single data item each	2, plus 2 for each use of a data item (including an attempt to use an undefined one, getting a link to the non-existing template)	size of the total result, counting the data items twice	0

Thus in the last case (separate templates) one count gives 0 and the other two are not greater than proportional to the amount of data, while in the second method the preprocessor node count increases with the product of the number of data tems used and the total number of data items in the "matrix row". In the first method the preprocessor node count has a term proportional to the amount of retrieved data, and an additional term equal to the number of data retrievals (where in one data retrieval multiple data items can be retrieved), multiplied by the total number of *named* parameters in the call of the variable template. This does not increase faster than the amount of data retrieved if whole matrix rows are retrieved at once, or if unnamed parameters are used.

Thus the counts are independent of unused data in the following cases:

- in the first method if unnamed parameters are used
- in the second method only on a page that retrieves data at the start of the list, and only if all data the page tries to retrieve are defined
- in the third method

The first and third method allow retrieval of ca. 500,000 different data items on a page, provided that they are small.

Even if we do not need so many data on one page (for example, we just want one column of a matrix with 1000 rows and on average 1000 defined values per row) it follows from the above that if we want to use a data template for each row then the data items have to be values of unnamed parameters. Thus in the case of a sparse matrix many dummy values such as the empty string have to be specified.

If we want on a page one column of a matrix with 1000 rows and on average between 500 and 1000 defined values per row we can also use named parameters. If switch is used, only any one of the first 500 columns can be retrieved. Thus even though on average the count is the same as with named parameters (preprocessor node count of 1 for each element), the maximum is more important than the average in this case, and named parameters are preferable.

See also w:Wikipedia:Template limits.

Comparison of named parameters and switch

The bulk of the code for storing data as values for named parameters is the same as that for a switch, provided that there is no fall-through, compare Template:Population Dutch municipality by code using named parameters and Template:Population Dutch municipality by code. Only the header part differs with the first starting with {{{1}}} | {{2}}}} and the second with #{switch:{{{1}}}, and the second has a default. Retrieval of a single element is done with population Dutch municipality by code using named parameters|pp|0193}} and Population Dutch municipality by code|193}}, respectively.

As we have seen, the first gives only half the preprocessor node count of the maximum of the second.

Other differences:

- in the case of duplicate left sides, the last one counts in the first method, and the first one with a switch
- in the first method a left side with leading zero(s) is distinguished from the same number without them; with switch they are considered the same

The case of an undefined value, including the option to specify a default, is take care of by the wrapper Template:Get, with the help of Template:Ifbraces.

Arranging data in data templates

Many data can be considered to form a 2D matrix, with for example a row representing an entity and a column a property. If matrix elements are not put in separate templates and not all in one template, then we can choose between two possibilities: each row in a template, or each column, or put differently, we put each row in a template but have to decide whether to use a particular matrix or its *transpose*. Considerations:

- It is convenient if data likely to be changed at the same time (because updates become available together, or because an editor reviews these data together) are in the same data template. For example, statistics for all municipalities in a country may periodically be provided together by a national organization, while population data of countries may separately come from the countries themselves, so not together for all countries.
- With the named parameter method, for row-wise retrieval of a 2D array (or a sub-array consisting of multiple columns), it is advantageous if each data template contains a row of the matrix, rather than a column.

Examples of data arranged by entity:

- w:Category:Country data templates and templates like w:Template:Data China

Examples of data arranged by property:

- various data templates for municipalities, see w:Category:Data templates

Only for large-scale use of data on one page the page counts matter. In these cases an entity usually forms a row and a property a column (this way also the sorting feature makes more sense: we can sort entities based on a property). This suggests that with the named parameter method templates should preferably be arranged by entity, not by property. This is the case in the country examples. However, for the reasons of convenience mentioned above this is usually not done for municipalities. Thus with 400 to 500 municipalities we can at best have a maximum of circa 4 columns.

Redundancy

Just like the need for multiple storage of a data item is avoided by making it independently retrievable, also a data item that can easily be derived from independently retrievable data items is typically not stored, but derived from the stored data. Examples of simple derivations are:

- concatenation
- simple computations, like addition of a few values, and division to find a percentage or density, or to do a unit conversion

This makes it easier to update data, avoids having larger or more data templates than necessary, and is less prone to errors.

In the case of a complicated derivation *data redundancy* may be useful to avoid a long wikitext, or a wikitext that is expensive to expand (in terms of page limits or slowing down the page). For example:

- the population of a country is usually stored even if the population of each province is also stored
- the country in which a town is located may be stored, even though the province is stored, and in another data template the country to which the province belongs is stored

With respect to the inconvenience of a long wikitext it makes a difference, of course, whether this would be needed only in a few templates, or in many places. To make the wikitext shorter, also an additional template can be created.

Modifying templates and/or template calls to use a system of automatic retrieval of data

Often a set of articles uses a system where each article calls a common infobox template, specifying data as parameter values, in a way in which the data are not independently retrievable. When the values for a particular parameter are put in a data template, methods for introducing it include:

- modifying the infobox template to use the data template; the parameter value is ignored; at ease the parameter definition can be removed when convenient
- modifying the infobox template to use the data template; if the data is missing in the data template the parameter value is used; allows introduction even if the data template is not, or may not be, complete; at ease the parameter definition can be removed when convenient
- modifying the infobox template to use the data template if the parameter is undefined; thus only after editing the article the data template is used, allowing one to check that things work as expected
- specifying in the articles as parameter value a call to the data template; this can be useful if the infobox template is used in a larger set of articles than for which one wants to make the change, for example one wants to introduce the system for the municipalities of one country, while the infobox is in use internationally

Alternatively the data are made independently retrievable, but remain arranged by entity (if each article is about an entity) rather than by property, e.g. all data about Amsterdam are together, not all population data about municipalities in the Netherlands. This is done by changing a call to the infobox template into a data template about the subject of the article, replacing the name of the infobox template by a parameter. If the infobox uses *{{PAGENAME}}*, this is filled in or replaced by a parameter that identifies the article within the set, and possibly a fixed part. In the article the call is replaced by a call to this data template, with just the name of the infobox template as parameter, and, if applicable, the extra parameter mentioned.

A mix of the two systems is also possible: a data template about Amsterdam could itself contain some data about Amsterdam, but for the population call a population data template.

Instead of moving the infobox call to a data template it can also be made the include-part of the page, with similar modifications. In this case the name of the infobox template is replaced by a wikitext that is effectively a parameter on inclusion, but remains the name of the infobox template on the page itself. This is simply done by making the name of the infobox template the default of the parameter.

Wikidata

 Wikidata (d:) is a special wiki to store data. A strong point is that on all sites on which it has been deployed the data can be used. At present a weak point is that each "claim" (item-property-value triple) can be used on only one page on each wiki: the page on the item. For example, the fact that Berlin is the capital of Germany is available on each wikipedia (in localized form, e.g. in Dutch the fact that *Berlijn* is the capital of *Duitsland*, but only on the page about Germany.

See also

- Help:Array (older methods)
- w:Category:Data templates
- Attribute (http://semantic-mediawiki.org/wiki/Help:Annotation): array where each index value is an existing pagename, and the array value is defined on that page using the extension SMW. If the array values are also pagenames (not necessarily existing) the array is called a *relation* (http://semantic-mediawiki.org/wiki/Help:Properties_and_types#.22Relations.22_and_.22Attributes.22_in_earlier_versions). Compare:
 - {{#switch:3|1=Mon|2=Tue|3=Wed|4=Thu|5=Fri|6=Sat|7=Sun|undefined}} gives Wed (see above)
 - <ask>weekday number:=3</ask> giving Wednesday [29] (http://wiki.ontoworld.org/wiki/Attribute:Weekday_number)

- Excluding the fixed amount of 1 for the page.
- From Vision.
- Excluding here and below the fixed amount of 1 for the page.
- The extra counts for retrieving an extra item, in the case that it turns out not to be defined. Excluding, in a table, a post-expand include size of 4 for 2 pipes, counted twice.

Links to other help pages

Help contents

Meta (https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikinews (https://en.wikinews.org/wiki/Special:Allpages?namespace=12) · Wikipedia (https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) · Wikiquote (https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) · Wiktionary (https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) · Commons: (https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikidata (https://www.wikidata.org/wiki/Special:Allpages?namespace=12) · MediaWiki (https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) · Wikibooks (https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) · Wikisource (https://en.wikisource.org/wiki/Special:Allpages?namespace=12) · MediaWiki: Manual (https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · Google

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Array) · Wikipedia (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Array) · MediaWiki (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Array)

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Languages: English · Deutsch (https://meta.wikimedia.org/w/index.php?title=Help:Array/de&uselang=de)
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Retrieved from "<https://meta.wikimedia.org/w/index.php?title=Help:Array&oldid=17926383>"

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Help:Calculation

The accuracy and format of numeric results varies with the server. Currently the results produced by Wikimedia servers seem to be uniform.

The functions `#expr:` and `#ifexpr:` of MediaWiki extension `ParserFunctions` evaluate numerical expressions, and also boolean expressions involving numbers and booleans (not strings). The syntax is

```
{{ #expr: expression }}
```

Spaces are not needed, except between words (for operators and constants). Inside numbers no grouping separators (spaces, commas, apostrophes) are allowed, the only decimal separator supported is the period (dot, full stop, excluding commas), and currently the only supported digits are the European decimal digits 0-9.

In calculation expressions embedded within templates, be careful when using magic words for date and time elements, such as `{{ CURRENTHOUR }}` as their return value may be formatted differently on translated pages and will break expressions (instead, use the parser function `#time` with the appropriate `xg` flags before each formatting element). Similar errors will occur with some other magic words that return quantities (make sure you include the appropriate *raw formatting* flag).

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General

An expression is a string representing a tree structure with type/value pairs as nodes, with binary operators in infix notation, unary operators in prefix notation, and end nodes represented by numbers and constants. Letters in operators and names of constants are case-insensitive.

The ParserFunctions software determines which operators and constants, and what numbers, are supported. The *e* in scientific notation and the sign of a number are treated as operators, the supported literal numbers are unsigned numbers in ordinary decimal format. The ParserFunctions software also determines the precedence of the operators and the error messages, and it converts all literal numbers to type float.

For the rest the ParserFunctions software just defines the operators in terms of PHP functions and operators, and any type conversions and peculiarities of the operators are properties of these PHP functions and operators themselves. Also, the format of the result is entirely determined by PHP.

The data types are the PHP data types `float` (<http://www.php.net/manual/en/language.types.float.php>) (double precision floating-point format) and `integer` ([http://www.ph p.net/manual/en/language.types.integer.php](http://www.php.net/manual/en/language.types.integer.php)) (64-bit integer). The range for type integer is from $-2^{63} = -9,223,372,036,854,775,808$ through $2^{63} - 1 = 9,223,372,036,854,775,807$. Type float allows fractions and very large numbers, but only in the range $\pm 2^{53} = \pm 9,007,199,254,740,992$ can all integer values be exactly represented in type float (see Help:Calculation accuracy).

Dynamic typing is applied. The end nodes are all of type float (as mentioned, numbers are converted to float; this applies even for numbers with an integer value and format). The data type of the result of an operation depends on the operator, and for some operators on the type(s) of the argument(s), and in some cases on their value(s). If according to these rules the result is of type float, any argument of type integer is converted to float before the operation, and the result is also rounded to float:

- `{{numfh| (trunc2^trunc62+trunc512)-2^62}}` → 0
- `{{numfh| (trunc2^trunc62+trunc512)+(trunc2^trunc62+trunc1535)}}` → 9,223,372,036,854,776,000 (ca. 9.2e18) `1.00000000000000_hex * 2^63`
- `{{numfh| 2^63+2047}}` → 9,223,372,036,854,777,600 (ca. 9.2e18) `1.00000000000001_hex * 2^63`

Apart from that, a numerical value outside the range of type integer is converted to float, except in the case of `trunc` (and `mod`, which involves applying `trunc` to the arguments first).

Operators, numbers, and constants

Since literal numbers are of type float, trunc is sometimes used in the examples to construct an integer-type argument, to demonstrate the result of an operator for this case.

Operator	Args	Operation	PHP	Data type	Prio	Examples																		
-	1	unary - sign (negation)	- (http://php.net/manual/en/language.operators.arithmetic.php)	same as argument	10	<table border="1"> <tr> <td><code>{{#expr:-12}}</code></td> <td>-12</td> </tr> <tr> <td><code>{{#expr:-trunc12}}</code></td> <td>-12</td> </tr> <tr> <td><code>{{#expr:-trunc(-2^63)}}</code></td> <td>9.2233720368548E+18</td> </tr> </table>	<code>{{#expr:-12}}</code>	-12	<code>{{#expr:-trunc12}}</code>	-12	<code>{{#expr:-trunc(-2^63)}}</code>	9.2233720368548E+18												
<code>{{#expr:-12}}</code>	-12																							
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<code>{{#expr:-trunc(-2^63)}}</code>	9.2233720368548E+18																							
e between subexpressions	2	*10^	* (http://php.net/manual/en/language.operators.arithmetic.pow.php) pow (http://php.net/manual/en/function.pow.php) (10,..)	float unless the factor on the left is of type integer and the exponent is non-negative and of type integer	10	<table border="1"> <tr> <td><code>{{#expr:2e3}}</code></td> <td>2000</td> </tr> <tr> <td><code>{{#expr:-2.3e-4}}</code></td> <td>-0.00023</td> </tr> <tr> <td><code>{{#expr:(trunc2)e(trunc-3)}}</code></td> <td>0.002</td> </tr> <tr> <td><code>{{#expr:(trunc2)e(trunc0)}}</code></td> <td>2</td> </tr> <tr> <td><code>{{#expr:(trunc2)e(trunc18)}}</code></td> <td>2000000000000000000</td> </tr> <tr> <td><code>{{#expr:(trunc2)e(trunc19)}}</code></td> <td>2.0E+19</td> </tr> <tr> <td><code>{{#expr:6e(5-2)e-2}}</code></td> <td>60</td> </tr> <tr> <td><code>{{#expr:1e.5}}</code></td> <td>3.1622776601684</td> </tr> </table> <p>Wrong:</p> <table border="1"> <tr> <td><code>{{#expr:e4}}</code></td> <td>Expression error: Unexpected number.</td> </tr> </table>	<code>{{#expr:2e3}}</code>	2000	<code>{{#expr:-2.3e-4}}</code>	-0.00023	<code>{{#expr:(trunc2)e(trunc-3)}}</code>	0.002	<code>{{#expr:(trunc2)e(trunc0)}}</code>	2	<code>{{#expr:(trunc2)e(trunc18)}}</code>	2000000000000000000	<code>{{#expr:(trunc2)e(trunc19)}}</code>	2.0E+19	<code>{{#expr:6e(5-2)e-2}}</code>	60	<code>{{#expr:1e.5}}</code>	3.1622776601684	<code>{{#expr:e4}}</code>	Expression error: Unexpected number.
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<code>{{#expr:e4}}</code>	Expression error: Unexpected number.																							
exp	1	exponential function e ^x	exp (http://php.net/manual/en/function.exp.php)	float	9	<table border="1"> <tr> <td><code>{{#expr:exp43}}</code></td> <td>4.7278394682293E+18</td> </tr> <tr> <td><code>{{#expr:exp trunc0}}</code></td> <td>1</td> </tr> <tr> <td><code>{{#expr:exp709}}</code></td> <td>8.218407461555E+307</td> </tr> <tr> <td><code>{{#expr:exp-744}}</code></td> <td>9.8813129168249E-324</td> </tr> </table> <p>Compare:</p> <table border="1"> <tr> <td><code>{{#expr:e^43}}</code></td> <td>4.7278394682293E+18</td> </tr> <tr> <td><code>{{#expr:trunc exp43}}</code></td> <td>4727839468229346304</td> </tr> </table>	<code>{{#expr:exp43}}</code>	4.7278394682293E+18	<code>{{#expr:exp trunc0}}</code>	1	<code>{{#expr:exp709}}</code>	8.218407461555E+307	<code>{{#expr:exp-744}}</code>	9.8813129168249E-324	<code>{{#expr:e^43}}</code>	4.7278394682293E+18	<code>{{#expr:trunc exp43}}</code>	4727839468229346304						
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ln	1	natural logarithm	log (http://php.net/manual/en/function.log.php)	float	9	<table border="1"> <tr> <td><code>{{#expr:ln2}}</code></td> <td>0.69314718055995</td> </tr> <tr> <td><code>{{#expr:ln trunc1}}</code></td> <td>0</td> </tr> <tr> <td><code>{{#expr:ln8.9e307}}</code></td> <td>709.07967482591</td> </tr> <tr> <td><code>{{#expr:ln.5e-323}}</code></td> <td>-744.44007192138</td> </tr> </table> <p>Hence, the common logarithm of e.g. 2:</p> <table border="1"> <tr> <td><code>{{#expr:ln2/ln10}}</code></td> <td>0.30102999566398</td> </tr> </table>	<code>{{#expr:ln2}}</code>	0.69314718055995	<code>{{#expr:ln trunc1}}</code>	0	<code>{{#expr:ln8.9e307}}</code>	709.07967482591	<code>{{#expr:ln.5e-323}}</code>	-744.44007192138	<code>{{#expr:ln2/ln10}}</code>	0.30102999566398								
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<code>{{#expr:ln2/ln10}}</code>	0.30102999566398																							
abs	1	absolute value	abs (http://php.net/manual/en/function.abs.php)	same as argument	9	<table border="1"> <tr> <td><code>{{#expr:abs-2}}</code></td> <td>2</td> </tr> <tr> <td><code>{{#expr:abs trunc-2}}</code></td> <td>2</td> </tr> <tr> <td><code>{{#expr:abs trunc-2^63}}</code></td> <td>9.2233720368548E+18</td> </tr> </table>	<code>{{#expr:abs-2}}</code>	2	<code>{{#expr:abs trunc-2}}</code>	2	<code>{{#expr:abs trunc-2^63}}</code>	9.2233720368548E+18												
<code>{{#expr:abs-2}}</code>	2																							
<code>{{#expr:abs trunc-2}}</code>	2																							
<code>{{#expr:abs trunc-2^63}}</code>	9.2233720368548E+18																							
sqrt	1	square root	sqrt (http://php.net/manual/en/function.sqrt.php)	float	9	<table border="1"> <tr> <td><code>{{#expr:sqrt 4}}</code></td> <td>2</td> </tr> <tr> <td><code>{{#expr:sqrt 2}}</code></td> <td>1.4142135623731</td> </tr> <tr> <td><code>{{#expr:sqrt 1e19}}</code></td> <td>3162277660.1684</td> </tr> </table> <p>Negative arguments are not permitted:</p> <table border="1"> <tr> <td><code>{{#expr:sqrt-1}}</code></td> <td>In sqrt: Result is not a number.</td> </tr> </table>	<code>{{#expr:sqrt 4}}</code>	2	<code>{{#expr:sqrt 2}}</code>	1.4142135623731	<code>{{#expr:sqrt 1e19}}</code>	3162277660.1684	<code>{{#expr:sqrt-1}}</code>	In sqrt: Result is not a number.										
<code>{{#expr:sqrt 4}}</code>	2																							
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<code>{{#expr:sqrt-1}}</code>	In sqrt: Result is not a number.																							
			(int) (htt																					

trunc	1	<u>truncation</u>	p://php.net/manual/en/language.types.integer.php#language.types.integer.casting), i.e. type-casting to integer	integer	9	<code>{{#expr:trunc1.2}}</code>	1
						<code>{{#expr:trunc1.8}}</code>	1
						<code>{{#expr:trunc-1.2}}</code>	-1
						<code>{{#expr:trunc(-2^64+1e5)}}</code>	0
						<code>{{#expr:trunc(-2^63+1e5)}}</code>	-9223372036854675456
						<code>{{#expr:trunc(2^63)}}</code>	-9223372036854775808
						<code>{{#expr:trunc(2^63+1e5)}}</code>	-9223372036854675456
						<code>{{#expr:trunc(2^64+1e5)}}</code>	0
floor	1	<u>floor function</u>	floor (http://php.net/manual/en/function.floor.php)	float	9	<code>{{#expr:floor1.2}}</code>	1
						<code>{{#expr:floor-1.2}}</code>	-2
						<code>{{#expr:floor trunc3}}</code>	3
ceil	1	<u>ceiling function</u>	ceil (http://php.net/manual/en/function.ceil.php)	float	9	<code>{{#expr:ceil1.2}}</code>	2
						<code>{{#expr:ceil-1.2}}</code>	-1
						<code>{{#expr:ceil trunc3}}</code>	3
sin	1	<u>sine</u>	sin (http://php.net/manual/en/function.sin.php)	float	9	<code>{{#expr:sin.1}}</code>	0.099833416646828
						<code>{{#expr:sin trunc1}}</code>	0.8414709848079
						With an angle in degrees, e.g. 30°:	
						<code>{{#expr:sin(30*pi/180)}}</code>	0.5
cos	1	<u>cosine</u>	cos (http://php.net/manual/en/function.cos.php)	float	9	<code>{{#expr:cos.1}}</code>	0.99500416527803
						<code>{{#expr:cos trunc1}}</code>	0.54030230586814
tan	1	<u>tangent</u>	tan (http://php.net/manual/en/function.tan.php)	float	9	<code>{{#expr:tan.1}}</code>	0.10033467208545
						<code>{{#expr:tan trunc1}}</code>	1.5574077246549
asin	1	<u>arcsine</u>	asin (http://php.net/manual/en/function.asin.php)	float	9	<code>{{#expr:asin.1}}</code>	0.10016742116156
						<code>{{#expr:asin trunc1}}</code>	1.5707963267949
acos	1	<u>arccosine</u>	acos (http://php.net/manual/en/function.acos.php)	float	9	<code>{{#expr:acos.1}}</code>	1.4706289056333
						<code>{{#expr:acos trunc1}}</code>	0
						<code>{{#expr:2*acos 0}}</code>	3.1415926535898
atan	1	<u>arctangent</u>	atan (http://php.net/manual/en/function.atan.php)	float	9	<code>{{#expr:atan.1}}</code>	0.099668652491162
						<code>{{#expr:atan trunc1}}</code>	0.78539816339745
						<code>{{#expr:4*atan 1}}</code>	3.1415926535898
not	1	<u>negation, logical NOT</u>	! (http://www.php.net/manual/en/language.operators.logical.php)	integer (1 or 0)	9	<code>{{#expr:not0}}</code>	1
						<code>{{#expr:not1}}</code>	0
						<code>{{#expr:not2}}</code>	0
						<code>{{#expr:not trunc1}}</code>	0

^	2	exponentiation (power)	pow (http://php.net/manual/en/function.pow.php)	float unless the base is of type integer and the exponent is non-negative and of type integer	8	{#expr:2^3}}	8
						{#expr:-2^3}}	-8
						{#expr:-2^4}}	16
						{#expr:(trunc2)^(trunc-3)}	0.125
						{#expr:(trunc2)^(trunc0)}	1
						{#expr:(trunc2)^(trunc62)}	4611686018427387904
						{#expr:(trunc2)^(trunc63)}	9.2233720368548E+18
						{#expr:(-2)^1.2}}	NAN
						{#expr:(-2)^.5}}	NAN

*	2	multiplication	* (http://php.net/manual/en/language.operators.arithmetic.php)	integer if both arguments are integer, otherwise float	7	{#expr:2*3}}	6
						{#expr:(trunc2)*3}}	6
						{#expr:2*trunc3}}	6
						{#expr:(trunc2)*trunc3}}	6
						{#expr:(trunc1e10)*trunc1e9}}	1.0E+19

/ (also written div)	2	division (div is not integer division ^[1])	/ (http://php.net/manual/en/language.operators.arithmetic.php)	float, unless both arguments are integer and the mathematical result is an integer	7	{#expr:6/3}}	2
						{#expr:(trunc6)/3}}	2
						{#expr:2/trunc6}}	0.333333333333333
						{#expr:(trunc6)/trunc3}}	2
						{#expr:(trunc6)/trunc4}}	1.5

mod	2	modulo operation, remainder of division after truncating both operands to an integer. ^[1]	% (http://php.net/manual/en/language.operators.arithmetic.php)	integer	7	{#expr:30mod7}}	2
						{#expr:-30mod7}}	-2
						{#expr:30mod-7}}	2
						{#expr:-30mod-7}}	-2
						{#expr:30.5mod7.9}}	2
						Zero value for the second operand is not allowed:	
{#expr:1mod0}}	Expression error: Division by zero						

+	2	addition	+ (http://php.net/manual/en/language.operators.arithmetic.php)	integer if both arguments are integer, otherwise float	6	{#expr:2+3}}	5
						{#expr:(trunc2)+3}}	5
						{#expr:2+trunc3}}	5
						{#expr:(trunc2)+trunc3}}	5
						{#expr:(trunc7e18)+trunc4e18}}	1.1E+19

-	2	subtraction	- (http://php.net/manual/en/language.operators.arithmetic.php)	integer if both arguments are integer, otherwise float	6	{#expr:3-2}}	1
						{#expr:(trunc3)-2}}	1
						{#expr:2-trunc2}}	0
						{#expr:(trunc3)-trunc2}}	1
						{#expr:(trunc-7e18)-trunc4e18}}	-1.1E+19

round	2	rounds off the number on the left to a multiple of 1/10 raised to a power, with the exponent equal to the truncated value of the number given on the right	round (http://php.net/manual/en/function.round.php)	float	5	{#expr:9.876round2}}	9.88
						{#expr:(trunc1234)round trunc-2}}	1200
						{#expr:4.5round0}}	5
						{#expr:-4.5round0}}	-5
						{#expr:46.857round1.8}}	46.9
						{#expr:46.857round-1.8}}	50

=	2	equality (numerical incl. logical, not for strings)	== (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:3.0=3}}</td><td>1</td></tr> <tr><td>{{#expr:3.1=3}}</td><td>0</td></tr> <tr><td>{{#expr:3.0=trunc3}}</td><td>1</td></tr> <tr><td>{{#expr:3.1=trunc3}}</td><td>0</td></tr> <tr><td>{{#expr:1e16=trunc(1e16)}}</td><td>1</td></tr> <tr><td>{{#expr:1e16=trunc(1e16)+trunc1}}</td><td>1</td></tr> <tr><td>{{#expr:trunc(1e16)=trunc(1e16)+trunc1}}</td><td>0</td></tr> </tbody> </table> <p>wrong:</p> <table border="1"> <tbody> <tr><td>{{#expr:a=a}}</td><td>Expression error: Unrecognized word "a".</td></tr> </tbody> </table>	{{#expr:3.0=3}}	1	{{#expr:3.1=3}}	0	{{#expr:3.0=trunc3}}	1	{{#expr:3.1=trunc3}}	0	{{#expr:1e16=trunc(1e16)}}	1	{{#expr:1e16=trunc(1e16)+trunc1}}	1	{{#expr:trunc(1e16)=trunc(1e16)+trunc1}}	0	{{#expr:a=a}}	Expression error: Unrecognized word "a".
{{#expr:3.0=3}}	1																					
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{{#expr:trunc(1e16)=trunc(1e16)+trunc1}}	0																					
{{#expr:a=a}}	Expression error: Unrecognized word "a".																					
<> (also written !=)	2	inequality, logical <i>xor</i> ; not for strings (negation of =)	!= (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:3<>3}}</td><td>0</td></tr> <tr><td>{{#expr:3<>4}}</td><td>1</td></tr> </tbody> </table>	{{#expr:3<>3}}	0	{{#expr:3<>4}}	1												
{{#expr:3<>3}}	0																					
{{#expr:3<>4}}	1																					
<	2	less than (not for ordering of strings)	< (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:3<3}}</td><td>0</td></tr> <tr><td>{{#expr:3<4}}</td><td>1</td></tr> <tr><td>{{#expr:2.9<3}}</td><td>1</td></tr> <tr><td>{{#expr:3.0<3}}</td><td>0</td></tr> <tr><td>{{#expr:2.9<trunc3}}</td><td>1</td></tr> <tr><td>{{#expr:3.0<trunc3}}</td><td>0</td></tr> <tr><td>{{#expr:1e16<trunc(1e16)+trunc1}}</td><td>0</td></tr> </tbody> </table> <p>wrong:</p> <table border="1"> <tbody> <tr><td>{{#expr:a<b}}</td><td>Expression error: Unrecognized word "a".</td></tr> </tbody> </table>	{{#expr:3<3}}	0	{{#expr:3<4}}	1	{{#expr:2.9<3}}	1	{{#expr:3.0<3}}	0	{{#expr:2.9<trunc3}}	1	{{#expr:3.0<trunc3}}	0	{{#expr:1e16<trunc(1e16)+trunc1}}	0	{{#expr:a<b}}	Expression error: Unrecognized word "a".
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{{#expr:1e16<trunc(1e16)+trunc1}}	0																					
{{#expr:a<b}}	Expression error: Unrecognized word "a".																					
>	2	greater than (same as <, with arguments reversed)	> (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:4>3}}</td><td>1</td></tr> <tr><td>{{#expr:3>3}}</td><td>0</td></tr> </tbody> </table>	{{#expr:4>3}}	1	{{#expr:3>3}}	0												
{{#expr:4>3}}	1																					
{{#expr:3>3}}	0																					
<=	2	less than or equal to (same as >=, with arguments reversed)	<= (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:3<=4}}</td><td>1</td></tr> <tr><td>{{#expr:3<=3}}</td><td>1</td></tr> </tbody> </table>	{{#expr:3<=4}}	1	{{#expr:3<=3}}	1												
{{#expr:3<=4}}	1																					
{{#expr:3<=3}}	1																					
>=	2	greater than or equal to (negation of <)	>= (http://php.net/manual/en/language-operators-comparison.php)	integer (1 or 0)	4	<table border="1"> <tbody> <tr><td>{{#expr:4>=3}}</td><td>1</td></tr> <tr><td>{{#expr:3>=3}}</td><td>1</td></tr> </tbody> </table>	{{#expr:4>=3}}	1	{{#expr:3>=3}}	1												
{{#expr:4>=3}}	1																					
{{#expr:3>=3}}	1																					
and	2	logical AND	&& (http://php.net/manual/en/language-operators-logical.php)	integer (1 or 0)	3	<table border="1"> <tbody> <tr><td>{{#expr:3and4}}</td><td>1</td></tr> <tr><td>{{#expr:-3and0}}</td><td>0</td></tr> <tr><td>{{#expr:0and4}}</td><td>0</td></tr> <tr><td>{{#expr:0and0}}</td><td>0</td></tr> </tbody> </table>	{{#expr:3and4}}	1	{{#expr:-3and0}}	0	{{#expr:0and4}}	0	{{#expr:0and0}}	0								
{{#expr:3and4}}	1																					
{{#expr:-3and0}}	0																					
{{#expr:0and4}}	0																					
{{#expr:0and0}}	0																					
or	2	logical OR	 (http://php.net/manual/en/language-operators-logical.php)	integer (1 or 0)	2	<table border="1"> <tbody> <tr><td>{{#expr:3or4}}</td><td>1</td></tr> <tr><td>{{#expr:-3or0}}</td><td>1</td></tr> <tr><td>{{#expr:0or4}}</td><td>1</td></tr> <tr><td>{{#expr:0or0}}</td><td>0</td></tr> </tbody> </table>	{{#expr:3or4}}	1	{{#expr:-3or0}}	1	{{#expr:0or4}}	1	{{#expr:0or0}}	0								
{{#expr:3or4}}	1																					
{{#expr:-3or0}}	1																					
{{#expr:0or4}}	1																					
{{#expr:0or0}}	0																					

+	1	<u>unary + sign</u>	(nothing)	same as argument	n.a.	<table border="1"> <tbody> <tr> <td><code>{{#expr:+1}}</code></td> <td>1</td> </tr> <tr> <td><code>{{#expr:+-1}}</code></td> <td>-1</td> </tr> <tr> <td><code>{{#expr:+trunc1}}</code></td> <td>1</td> </tr> </tbody> </table>	<code>{{#expr:+1}}</code>	1	<code>{{#expr:+-1}}</code>	-1	<code>{{#expr:+trunc1}}</code>	1
<code>{{#expr:+1}}</code>	1											
<code>{{#expr:+-1}}</code>	-1											
<code>{{#expr:+trunc1}}</code>	1											
(number)	0	unsigned number in ordinary decimal notation (unary plus and minus and e are treated as operators, see elsewhere in this table)	floatval (http://nl.php.net/manual/en/function.floatval.php)	float	n.a.	<table border="1"> <tbody> <tr> <td><code>{{#expr:1234567890123456789}}</code></td> <td>1.2345678901235E+18</td> </tr> <tr> <td><code>{{#expr:123456789.0123456789}}</code></td> <td>123456789.01235</td> </tr> </tbody> </table>	<code>{{#expr:1234567890123456789}}</code>	1.2345678901235E+18	<code>{{#expr:123456789.0123456789}}</code>	123456789.01235		
<code>{{#expr:1234567890123456789}}</code>	1.2345678901235E+18											
<code>{{#expr:123456789.0123456789}}</code>	123456789.01235											
e as subexpression	0	constant <u>e</u>	exp (http://php.net/manual/en/function.exp.php)(1)	float	n.a.	<table border="1"> <tbody> <tr> <td><code>{{#expr:e}}</code></td> <td>2.718281828459</td> </tr> </tbody> </table>	<code>{{#expr:e}}</code>	2.718281828459				
<code>{{#expr:e}}</code>	2.718281828459											
pi	0	constant <u>π</u>	pi (http://php.net/manual/en/function.pi.php)()	float	n.a.	<table border="1"> <tbody> <tr> <td><code>{{#expr:pi}}</code></td> <td>3.1415926535898</td> </tr> </tbody> </table>	<code>{{#expr:pi}}</code>	3.1415926535898				
<code>{{#expr:pi}}</code>	3.1415926535898											

Logical operators return 1 for true and 0 for false, and interpret 0 as false and any other number as true. Thus `{{#expr: (2 < 3) + 1}}` gives 2 [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A+%282+%3C+3%29+%2B+1%7D%7D%22>). Note that "and" and "or" work with `#expr` and `#ifexpr` only; for use with `#if`, `#ifeq`, and `#ifexist`, use 1 as then-text and 0 as else-text, and combine results with "and" and "or" in an outer `#expr` or `#ifexpr`. Instead of `{{#if:{{a}}|1|0}}` or `{{#if:{{b}}|1|0}}` we can also use `{{#if:{{a}}{{b}}|1|0}}`. For negation, simply subtract from 1 or interchange then- and else-part.

Precedence is indicated in the table, a higher number means that the operator is applied first. Examples (" $>$ " refers to going before, " \sim " means application from left to right):

- `e > floor, not, etc.:` `{{#expr:floor1.5e1}}` \rightarrow 15, `{{#expr:not0e1}}` \rightarrow 1
- `floor > ^:` `{{#expr:floor1.5^2}}` \rightarrow 1
- `^ > *:` `{{#expr:2*3^2}}` \rightarrow 18
- `* \sim / \sim mod:` `{{#expr:12/3*2}}` \rightarrow 8, `{{#expr:111/3mod10}}` \rightarrow 7, `{{#expr:358mod10*2}}` \rightarrow 16,
- `* > +, -:` `{{#expr:2+3*4}}` \rightarrow 14, `{{#expr:2-3*4}}` \rightarrow -10
- `+ \sim -:` `{{#expr:6-2+3}}` \rightarrow 7, `{{#expr:-2+3}}` \rightarrow 1
- `+, - > round:` `{{#expr:1.234round2-1}}` \rightarrow 1.2
- `round > = etc.:` `{{#expr:1.23=1.234round2}}` \rightarrow 1
- `= etc. > and:` `{{#expr:1 and 2=1}}` \rightarrow 0
- `and > or:` `{{#expr:1 or 1 and 0}}` \rightarrow 1

In the case of equal precedence number, evaluation is from left to right:

- `{{#expr:12/2*3}}` \rightarrow 18
- `{{#expr:3^3^3}}` \rightarrow 19683

Parentheses can force a different precedence: `{{#expr:(2+3)*4}}` \rightarrow 20

Blank spaces are good for readability but not needed for working properly, except between words (including "e"), and not allowed within numbers:

- `{{#expr:7mod3}}` gives 1 [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A7mod3%7D%7D%22>)
- `{{#expr:7.5round0}}` gives 8 [3] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A7.5round0%7D%7D%22>)
- `{{#expr:0and1}}` gives 0 [4] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A0and1%7D%7D%22>)
- `{{#expr:0or not0}}` gives 1 [5] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A0or+not0%7D%7D%22>)
- `{{#expr:0ornot0}}` gives **Expression error: Unrecognized word "ornot"**. [6] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A0ornot0%7D%7D%22>)
- `{{#expr:123 456}}` gives **Expression error: Unexpected number.** [7] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A123+456%7D%7D%22>)
- `{{#expr:not not3}}` gives 1 [8] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3Anot+not3%7D%7D%22>)
- `{{#expr:notnot3}}` gives **Expression error: Unrecognized word "notnot"**. [9] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3Anotnot3%7D%7D%22>)
- `{{#expr:---2}}` gives -2 [10] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A---2%7D%7D%22>)
- `{{#expr:-+2}}` gives 2 [11] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A-+2%7D%7D%22>)
- `{{#expr:2*-3}}` gives -6 [12] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A2%2A-3%7D%7D%22>)
- `{{#expr:-not-not-not0}}` gives -1 [13] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A-not-not-not0%7D%7D%22>)
- `{{#expr:2*/3}}` gives **Expression error: Unexpected / operator.** [14] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A2%2A%2F3%7D%7D%22>)
- `{{#expr:sinln1.1}}` gives **Expression error: Unrecognized word "sinln"**. [15] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3Asinln1.1%7D%7D%22>)
- `{{#expr:sin ln1.1}}` gives 0.095165945236752 [16] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3Asin+ln1.1%7D%7D%22>)

For scientific notation e is treated as an operator. An e between subexpressions works just like *10^, except that together with the unary minus, it has the highest precedence, e.g. before a separate ^, and that the implicit 10 is of type integer, not float. An e as subexpression (i.e., with an each side either nothing or an operator) is Euler's constant. An e with on one side nothing or an operator and on the other side a subexpression gives an error message.

Transitivity

For comparing a number of type float with one of type integer, the integer is converted to float. Therefore the operators =, <= and >= are not transitive with mixed types:

- {{#expr:trunc1e16=1e16}} → 1
- {{#expr:1e16=trunc1e16+trunc1}} → 1
- {{#expr:trunc1e16=trunc1e16+trunc1}} → 0

- {{#expr:trunc1e16>=1e16}} → 1
- {{#expr:1e16>=trunc1e16+trunc1}} → 1
- {{#expr:trunc1e16>=trunc1e16+trunc1}} → 0

Similarly, a >= b and b = c does not imply a >= c:

- {{#expr:trunc1e16>=1e16}} → 1
- {{#expr:1e16=trunc1e16+trunc1}} → 1
- {{#expr:trunc1e16>=trunc1e16+trunc1}} → 0

However, < and > *are* transitive.

Monotonicity

In division of numbers of type integer, a small change in the dividend can change the type of the result. Therefore, if the absolute value of the result is greater than 2^53, it is not always a monotonic function of the dividend:

- {{numf|(trunc1e18−trunc2)/trunc3}} → 333,333,333,333,333,312
- {{numf|(trunc1e18−trunc1)/trunc3}} → 333,333,333,333,333,333
- {{numf|trunc1e18/trunc3}} → 333,333,333,333,333,312

Template:Divint rectifies this.

Numbers as input

Leading zeros are allowed, as well as a trailing decimal point (for an integer) and trailing zeros in a number with a decimal point.

- "{{#expr: +01.20}}" gives "1.2" [17] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A+%2B01.20%7D%7D%22)
- "{{#expr: 12.}}" gives "12" [18] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A+12.%7D%7D%22)

These equivalences apply also for #ifeq and #switch, see below.

The part of the expression representing a number is a sequence of digits and points; due to floatval (<http://www.php.net/manual/en/function.floatval.php>) a second point and any digits and points immediately after it are ignored, and do not give an error message. **Group separators are not allowed:** a comma is considered an unrecognised punctuation character:

Thus a number can only consist of:

- one or more digits, or
- zero or more digits, a point, and zero or more digits.

- "{{#expr:123}}" gives "123" [19] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A123%7D%7D%22)
- "{{#expr:123.456}}" gives "123.456" [20] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A123.456%7D%7D%22)
- "{{#expr:.456}}" gives "0.456" [21] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A.456%7D%7D%22)
- "{{#expr:0}}" gives "0" [22] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A0%7D%7D%22)

Also accepted:

- "{{#expr: 123.}}" gives "123" [23] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A+123.%7D%7D%22)
- "{{#expr:000123.4560}}" gives "123.456" [24] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A000123.4560%7D%7D%22)
- "{{#expr:.}}" gives "0" [25] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A.%7D%7D%22)

With ignored part:

- "{{#expr:123.456.789}}" gives "123.456" [26] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A123.456.789%7D%7D%22)

Wrong:

- "{{#expr: 123,456}}" gives "**Expression error: Unrecognized punctuation character ",."**" [27] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A+123%2C456%7D%7D%22)
- "{{#expr: 123 456}}" gives "**Expression error: Unexpected number."**" [28] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplnput=%22%7B%7B%23expr%3A+123+456%7D%7D%22)

Combinations with the operator e:

while a number of type double is rounded to 14 significant digits, while inconsistently displaying some numbers in scientific format. This is reportedly a bug in the Zend Engine which has been fixed [33] (<http://bugs.php.net/43053>), but on Wikimedia apparently not yet:

- `{{#expr:2^52}}` → 4.5035996273705E+15
- `{{#expr:-(2^52)}}` → -4.5035996273705E+15
- `{{#expr:1100000}}` → 1100000
- `{{#expr:1200000}}` → 1200000
- `{{#expr:1300000}}` → 1300000
- `{{#expr:4100000}}` → 4100000
- `{{#expr:1/7}}` → 0.14285714285714

Note: Internally, the expression may be computed with more digits (typically 18 significant digits, for example on Wikimedia servers which are using IEEE 64-bit double in the implementation of PHP used by MediaWiki, but possibly more depending on the hardware architecture supported by PHP, which may have been itself compiled to use "long double" with an extended precision using 80- to 128-bit binary formats), so the formatted value returned by `#expr` will not exhibit some small differences.

If MediaWiki is installed on a server whose PHP engine was compiled for an architecture using different binary storage formats for its C/C++ datatype "double" (possibly with less precision than the IEEE 64-bit format), and possibly optimized for speed (the compiled C code or its linked-in mathematical libraries may then not use "strict" IEEE rounding modes for every floating point operation, but may keep some precision for intermediate results by not rounding them at each step, or could also compute results faster using internal values with less precision), you will get different results in PHP: MediaWiki will not be able to use the same precision (or the same range of magnitudes), and the results of calculations may vary between servers. When installing MediaWiki on a PHP server, make sure you look at PHP configuration options.

For example if the architecture supports fast floating points only with 32-bit format,s you'll get only 7 or 8 significant digits, and the 14 digits displayed by MediaWiki may exceed what the server can really compute. As well you may get unexpected "infinite" values or zero where another server could have returned accurate values).

For some representable round numbers, notably some multiples of 100,000, scientific notation is produced, which, if reused in an expression, is not even exactly equal to the original number:

- `{{numfh|4.1e6}}` → 4,099,999.9999999995 (ca. 4.1e6) `1.f47cffffffffffffhex*2^21`

Thus we may want to either compare two results of `#expr` (for equality up to 14 digits) or compare two expressions, such as `4100000` and `4000000+100000` (for exact equality); depending on context and intention, the negative result of the comparison of the result of `expr` with the exact number may be confusing.

The function `formatnum` adds commas (on the left of the point only), but does not convert from or to scientific format:

- `{{formatnum:1234567.890123}}` → 1,234,567.890123
- `{{formatnum:1234567.890123E16}}` → 1,234,567.890123E16

The number output is suitable for many other calculation programs, also the scientific notation. In that sense output like `6E23` is more convenient than `6 × 1023`.

Template:Num displays a number with high accuracy (such that in the case of float the specific internal value is reconstructed when using the output as input), with the variant Template:Numf showing thousands separators:

- `{{numf|trunc3^trunc39}}` → 4,052,555,153,018,976,267
- `{{numf|trunc3^trunc40}}` → 12,157,665,459,056,928,000
- `{{numf|1/7}}` → .14285714285714284

Negative zero

Although the literal "-0" (the unary minus applied to 0) gives 0, some operations give the float "-0" (preserving commutativity of + and *):

Generating -0 with `*`, `/`, `ceil`, `round`:

- `{{#expr:-1*0}}` → -0
- `{{#expr:(-1e-200)*1e-200}}` → -0
- `{{#expr:-1/1e333}}` → -0
- `{{#expr:0/-1}}` → -0
- `{{#expr:(-1e-200)/1e200}}` → -0
- `{{#expr:(1e-200)/-1e200}}` → -0
- `{{#expr:ceil(-.1)}}` → -0
- `{{#expr:-.2round0}}` → -0

Passing -0 on with unary `+`, binary `+` and `-`, `*` (and hence operator `e`), `/`, `floor`, `ceil`:

- `{{#expr:+(-1*0)}}` → -0
- `{{#expr:(-1*0)+(-1*0)}}` → -0
- `{{#expr:(-1*0)-0}}` → -0
- `{{#expr:1*(-1*0)}}` → -0
 - `{{#expr:(-1*0)e0}}` → -0
- `{{#expr:(-1*0)/1}}` → -0
- `{{#expr:floor(-1*0)}}` → -0
- `{{#expr:ceil(-1*0)}}` → -0

However:

- `{{#expr: -0}}` → 0
- `{{#expr: -10-401}}` → -0

Since 2011 the function #ifexpr takes both 0 and the float -0 as false:

- `{{#ifexpr:0|1|0}}` → 0
- `{{#ifexpr:-1*0|1|0}}` → 0

Also, as argument of a logical operator -0 is taken as false:

- `{{#expr:not(-1*0)}}` → 1
- `{{#expr:(-1*0)and1}}` → 0
- `{{#expr:(-1*0)or0}}` → 0

If an expression of type float can have the value -0, then an operation that removes the minus sign from a possible -0, but does not affect any other result, is the addition of 0.

If an expression may be of type integer then one can add trunc0.

- `{{#expr:0+(-1*0)}}` → 0

Type conversion

A float can be converted to type integer by operator trunc (note however that for 2⁶³ ≤ x ≤ 2⁶⁴ we get x - 2⁶⁴, for larger x we get 0; for x < -2⁶³ we get -2⁶³).

An expression of type integer can be converted to float by adding 0. Note that for integers greater than 2⁵³ this involves rounding.

Limitations and workarounds

The operator trunc gives the correct mathematical result of rounding toward 0 to an integer for integer-type numbers and for floats x inside the integer range: -2⁶³ ≤ x < 2⁶³. To also get the correct mathematical result for floats outside this range is simple, because these floats all have an integer value, so they can be left unchanged.

Template:Trunc does this.

The operator mod gives strange errors for some fairly large values of the second argument:

- `{{#expr:123mod(264-1)}}` → **Expression error: Division by zero**

Template:Modint works correctly for a larger range.

The operator *round* with second argument 0 gives wrong results for odd numbers between 2⁵² and 2⁵³, even though the exact results are representable as float. Also, the operator rounds integer-type numbers with an absolute value between 2⁵³ and 2⁶³ to float. Template:Round0 always gives the expression for the exact result, for subsequent use in an expression, or for display (with the accuracy of this depending on the accuracy of the display function or template only).

The operator *floor* rounds integer-type numbers with an absolute value between 2⁵³ and 2⁶³ to float, and not necessarily downward. Similarly the operator *ceil* rounds these numbers not necessarily upward. Template:Floor and Template:Ceil always give the expressions for the exact results, for subsequent use in an expression, or for display (with the accuracy of this, and the direction of rounding, depending on the display function or template only).

Branching depending on an expression

The function #ifexpr: produces one of two specified results, depending on the value of a boolean expression involving numbers and booleans (not strings). Examples:

- `{{#ifexpr: {{CURRENTDOW}} = 0 or {{CURRENTDOW}} = 6 | weekEND | weekDAY}}` yields **weekEND** because today is Sunday and so "{{CURRENTDOW}}" is "0" [34] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplinput=%22%7B%7BCURRENTDOW%7D%7D%22).
- `{{#expr:210=1024}}` → 1

Note that rounding errors can affect a comparison, even if they are not visible in the displayed values: the internal values are compared. This applies even to large integers:

- `{{#expr:1024e20-1e23}}` → 2.4E+21
- `{{#expr:1024e20-1e23=2.4e21}}` → 0

Instead one may want to allow a relatively small difference that could be present due to rounding errors:

- `{{#expr:abs(1024e20-1e23-2.4e21)<1e8}}` → 1

Again, for comparing a number of type float with one of type integer, the integer is converted to float. In this case the type is determined by the format of the number, e.g. 2 is an integer, but 2.0 and 2e0 are floats; also 12345678901234567890 is a float, because it is too large for an integer.

Again, equality is not transitive with mixed types:

- `{{#ifeq:12345678901234567|12345678901234568.0|1|0}}` → 1
- `{{#ifeq:12345678901234568.0|12345678901234568|1|0}}` → 1
- `{{#ifeq:12345678901234567|12345678901234568|1|0}}` → 0
- `{{#ifeq:12345678901234567|12345678901234567e0|1|0}}` → 1
- `{{#ifeq:12345678901234567e0|12345678901234568|1|0}}` → 1
- `{{#ifeq:12345678901234567|12345678901234568|1|0}}` → 0
- `{{num|trunc(262)-trunc1+trunc(262)}}` → 9223372036854775807
- `{{#ifeq:9223372036854775700|9223372036854775900|1|0}}` → 0
- `{{#ifeq:9223372036854775900|9223372036854775800|1|0}}` → 0
- `{{#ifeq:9223372036854775700|9223372036854775800|1|0}}` → 0

Comparisons

The functions `#ifeq` and `#switch` compare numbers and strings for equality using PHP operator `==` (<http://www.php.net/manual/en/language.operators.comparison.php>), the same as the equality operator mentioned above, but now applied directly to the expanded wikitext of the arguments. For comparison as numbers no expressions (not even constants) are allowed, but in this case the unary plus and minus and the e of scientific notation are taken as part of the number, instead of as operators. Without e and decimal point the type is integer, otherwise it is float. As mentioned above, when an integer is compared with a float, the integer is converted to float first.

- `{{#ifeq:3|3.0|1|0}}` → 1
- `{{#ifeq:3|03|1|0}}` → 1
- `{{#ifeq:0.00003456|3.456E-05|1|0}}` → 1
- `{{#ifeq:1e23|.1e24|1|0}}` → 1 although rounding both numbers to float gives different internal numbers:
 - `{{#expr:1e23-.1e24}}` → -16777216
 - `{{#expr:1e23=.1e24}}` → 0
 - `{{#ifexpr:1e23=.1e24|1|0}}` → 0
- `{{#ifeq:9034567890123456789|9034567890123456788|1|0}}` → 0 (two numbers of type integer, therefore only true if exactly equal); compare:
- `{{#ifeq:9034567890123456700.0|9034567890123456800|1|0}}` → 1 (due to the decimal point in one number, both are rounded to float before the comparison, so the comparison is cruder)

Length of expressions

Long expressions are allowed, see [Template:Long expression demo](#). However, see also [efficiency](#).

Error messages

Examples for all known `#expr:` and `#ifexpr:` error messages. The error texts are within the tags `<strong class="error">..`.

- `"{{#expr:1/0}}"` → **"Expression error: Division by zero"** [35] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A1%2F0%7D%7D%22&removecomments=true>)
- `"{{#expr:2*}}"` → **"Expression error: Missing operand for *."** [36] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%2A%7D%7D%22&removecomments=true>)
- `"{{#expr:1 2}}"` → **"Expression error: Unexpected number."** [37] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A1+2%7D%7D%22&removecomments=true>)
- `"{{#ifexpr:1*/2}}"` → **"Expression error: Unexpected / operator."** [38] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23ifexpr%3A1%2A%2F2%7D%7D%22&removecomments=true>)
- `"{{#expr: 1 (2)}}"` → **"Expression error: Unexpected (operator."** [39] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A+1+%282%29%7D%7D%22&removecomments=true>)
- `"{{#expr: (1)}}"` → **"Expression error: Unclosed bracket."** [40] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A+%281%7D%7D%22&removecomments=true>)
- `"{{#expr: 1)}}"` → **"Expression error: Unexpected closing bracket."** [41] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A+1%29%7D%7D%22&removecomments=true>)
- `"{{#expr:{{a}}}}"` → **"Expression error: Unrecognized punctuation character "{"."** [42] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A%7B%7B%7Ba%7D%7D%7D%7D%22&removecomments=true>)
- `"{{#expr:2*123,456}}"` → **"Expression error: Unrecognized punctuation character ","."** [43] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%2A123%2C456%7D%7D%22&removecomments=true>)
- `"{{#ifexpr:3%2}}"` → **"Expression error: Unrecognized punctuation character "%"."** [44] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23ifexpr%3A3%252%7D%7D%22&removecomments=true>)
- `"{{#ifexpr:abc}}"` → **"Expression error: Unrecognized word "abc"."** [45] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23ifexpr%3Aabc%7D%7D%22&removecomments=true>)
- `"{{#expr:abc.def}}"` → **"Expression error: Unrecognized word "abc"."** [46] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3Aabc.def%7D%7D%22&removecomments=true>)
- `"{{#expr:sqrt-1}}"` → **"In sqrt: Result is not a number."** [47] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3Asqrt-1%7D%7D%22&removecomments=true>)
- `"{{#expr:ln0}}"` → **"Invalid argument for ln: <= 0."** [48] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3Aln0%7D%7D%22&removecomments=true>)
- `"{{#expr:asin-22}}"` → **"Invalid argument for asin: <-1 or > 1."** [49] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3Aasin-22%7D%7D%22&removecomments=true>)

`{{#expr:{{x|102|1000*}} 18}}` gives 1.8E+307

`{{#expr:{{x|102|1000*}} 179}}` gives 1.79E+308

`{{#expr:{{x|102|1000*}} 180}}` gives INF (on Wikimedia "INF", but depending on the operating system of the server it may also be e.g. "1.#INF")

INF also appears when an intermediate result is of range:

- `{{#expr:1e309/1e308}}` → INF
- `{{#expr:1e200*1e200*1e-300}}` → INF.

but

- `{{#expr:1e200*(1e200*1e-300)}}` → 1.0E+100.

`{{#expr:{{x|33|(1+({}1{{x|33|)})}}}}` gives 34

`{{#expr:{{x|34|(1+({}1{{x|34|)})}}}}` gives **Expression error: Stack exhausted.**

"

{

{

#

e

x

p

r

:

3

.

4

.

5

.

6

}

}

"

 gives "3.4" [50] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%22%7B%7B%23expr%3A3.4.5.6%7D%7D%22) (no feature, only an oddity)

Note:

t

e

m

p

l

a

t

e

:

x

 (talk edit (https://meta.wikimedia.org/w/index.php?title=Template:X&action=edit) history (https://meta.wikimedia.org/w/index.php?title=Template:X&action=history) links (https://meta.wikimedia.org/w/index.php?title=Special:Whatlinkshere/template:x&limit=1000)) copies a given string, here parts of an expression, for the specified times (max. 120).

Wikitext without error message from the parser functions, but typically unintended:

{

{

{

#

e

x

p

r

:

2

∗

3

}

}

}

{

{

{

#

e

x

p

r

:

2

∗

3

}

}

}

 (triple braces, the whole is interpreted as parameter tag with parameter name "#expr:2*3")

{

{

#

e

x

p

r

:

2

∗

3

}

}

 6} (one closing brace too many; the last of the three is interpreted as plain text, so that the rest works fine)

{

{

{

#

e

x

p

r

:

2

∗

3

}

 {6 (one opening brace too many; the first of the three is interpreted as plain text, so that the rest works fine)

{

{

#

e

x

p

r

:

2

∗

3

}

{

{

#

e

x

p

r

:

2

∗

3

}

 (too few braces, the whole is interpreted as plain text)

Checking for a number

Check whether a string is a valid numeric expression:

- {

{

#

i

f

:

{

{

#

i

f

e

x

p

r

:

3

}

}

|

0

|

1

}

}

 gives 1
- {

{

#

i

f

:

{

{

#

i

f

e

x

p

r

:

3

−
2

}

}

|

0

|

1

}

}

 gives 1
- {

{

#

i

f

:

{

{

#

i

f

e

x

p

r

:

3

2

}

}

|

0

|

1

}

}

 gives 0

Find the value represented by a string if it is a valid numeric expression, otherwise just return the string:

- {

{

#

i

f

e

r

r

o

r

:

{

{

#

e

x

p

r

:

3

}

}

|

3

}

}

 gives 3
- {

{

#

i

f

e

r

r

o

r

:

{

{

#

e

x

p

r

:

3

−
2

}

}

|

3

−
2

}

}

 gives 1
- {

{

#

i

f

e

r

r

o

r

:

{

{

#

e

x

p

r

:

3

2

}

}

|

3

2

}

}

 gives 3 2

Check whether a string is a number:

- {

{

#

i

f

e

q

:

3

|

{

{

#

e

x

p

r

:

3

}

}

|

1

|

0

}

}

 gives 1
- {

{

#

i

f

e

q

:

−
3

|

{

{

#

e

x

p

r

:

−
3

}

}

|

1

|

0

}

}

 gives 1
- {

{

#

i

f

e

q

:

3

.

5

|

{

{

#

e

x

p

r

:

3

.

5

}

}

|

1

|

0

}

}

 gives 1
- {

{

#

i

f

e

q

:

0
3

|

{

{

#

e

x

p

r

:

0
3

}

}

|

1

|

0

}

}

 gives 1
- {

{

#

i

f

e

q

:

3

−
2

|

{

{

#

e

x

p

r

:

3

−
2

}

}

|

1

|

0

}

}

 gives 0
- {

{

#

i

f

e

q

:

3

2

|

{

{

#

e

x

p

r

:

3

2

}

}

|

1

|

0

}

}

 gives 0

Minus sign

Only the hyphen-minus character or minus sign character, typed directly, work as a minus sign operator in expressions.

- The HTML character references (by name or by numeric code point value) are not recognized when evaluating expressions: numerical character references are converted only when generating the final HTML document (after expansion of templates and parser functions)
- Only a handful of character references by name are substituted early by MediaWiki, all others are interpreted only by the browser.
- The other dash characters (such as the hyphen, the figure dash, en dash, em dash and others), though often similar visually, are **not** valid minus signs, but punctuation signs or typographical variants.

hyphen-minus, typed directly as the character '-' (U+002D)	" {#expr:−12} "	"-12"	[51] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A-12%7D%7D%22)
hyphen-minus, typed as the numerical character reference &#x2D ;	" {#expr:&#x2D;12} "	" Expression error: Unrecognized punctuation character "&#x2D;" "	[52] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%23x2D;12%7D%7D)
hyphen-minus, typed as the numerical character reference &#45 ;	" {#expr:&#45;12} "	" Expression error: Unrecognized punctuation character "&#45;" "	[53] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%2345;12%7D%7D)
minus sign, typed directly as the character '−' (U+2212)	" {#expr:−12} "	"-12"	[54] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A%E2%88%9212%7D%7D%22)
minus sign, typed as the numerical character reference &#x2212 ;	" {#expr:&#x2212;12} "	" Expression error: Unrecognized punctuation character "&#x2212;" "	[55] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%23x2212;12%7D%7D)
minus sign, typed as the numerical character reference &#8722 ;	" {#expr:&#8722;12} "	" Expression error: Unrecognized punctuation character "&#8722;" "	[56] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%238722;12%7D%7D)
minus sign, typed as the symbolic character reference &minus ;	" {#expr:&minus;12} "	"-12"	[57] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26minus;12%7D%7D)
figure dash, typed directly as the character '–' (U+2012)	" {#expr:–12} "	" Expression error: Unrecognized punctuation character "–;" "	[58] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A%E2%80%9212%7D%7D%22)
figure dash, typed as the numerical character reference &#x2012 ;	" {#expr:&#x2012;12} "	" Expression error: Unrecognized punctuation character "&#x2012;" "	[59] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%23x2012;12%7D%7D)
figure dash, typed as the numerical character reference &#8210 ;	" {#expr:&#8210;12} "	" Expression error: Unrecognized punctuation character "&#8210;" "	[60] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%238210;12%7D%7D)
en dash, typed directly as the character '–' (U+2013)	" {#expr:–12} "	" Expression error: Unrecognized punctuation character "–;" "	[61] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A%E2%80%9312%7D%7D%22)
en dash, typed as the numerical character reference &#x2013 ;	" {#expr:&#x2013;12} "	" Expression error: Unrecognized punctuation character "&#x2013;" "	[62] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%23x2013;12%7D%7D)
en dash, typed as the numerical character reference &#8211 ;	" {#expr:&#8211;12} "	" Expression error: Unrecognized punctuation character "&#8211;" "	[63] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26%238211;12%7D%7D)
en dash, typed as the symbolic character reference &ndash ;	" {#expr:&ndash;12} "	" Expression error: Unrecognized punctuation character "&ndash;" "	[64] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&input=%7B%7B%23expr:%26ndash;12%7D%7D)

Also many other calculation programs require a hyphen. Therefore, in order to be able to copy rendered numbers and expressions to the edit box or input them through a copy operation into other calculation programs, displayed minus signs also need to be hyphens.

Displaying numbers and numeric expressions

Guidelines such as [w:Wikipedia:Manual of Style \(dates and numbers\)#Numbers](#) focus on number display as end product. However, a point of consideration can also be the possibility to apply the rendered output to #expr or #ifexpr, or to input it without conversion into other calculation programs. This would require the following:

- use digits, not words
- as mentioned above, use the hyphen as minus sign
- use *, <=, and >=, not x, ≤, or ≥
- do not use thousands separators (however, some programs allow them)
- use output like 6E23 or 6e23 rather than 6 × 10²³

Examples:

- "{#expr:three}" gives "**Expression error: Unrecognized word "three".**" [65] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3Athree%7D%7D%22>)
- "{#expr:2<3}" gives "1" [66] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%3C3%7D%7D%22>)
- "{#expr:2≤3}" gives "**Expression error: Unrecognized punctuation character "≤".**" [67] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%E2%89%A43%7D%7D%22>)
- "{#expr:2<=3}" gives "1" [68] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%3C%3D3%7D%7D%22>)
- "{#expr:2>3}" gives "0" [69] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%3E3%7D%7D%22>)
- "{#expr:2≥3}" gives "**Expression error: Unrecognized punctuation character "≥".**" [70] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%E2%89%A53%7D%7D%22>)
- "{#expr:2>=3}" gives "0" [71] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%3E%3D3%7D%7D%22>)
- "{#expr:2*3}" gives "6" [72] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%2A3%7D%7D%22>)
- "{#expr:2×3}" gives "**Expression error: Unrecognized punctuation character "×".**" [73] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%C3%973%7D%7D%22>)
- "{#expr:2, 300}" gives "**Expression error: Unrecognized punctuation character ",".**" [74] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A2%2C300%7D%7D%22>)
- "{#expr:6E23}" gives "6.0E+23" [75] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%22%7B%7B%23expr%3A6E23%7D%7D%22>)

If the number is the result of a computation by MediaWiki and unsuitable for use in a new computation due to application of a formatting function such as #formatnum or a formatting template, one can copy the wikitext and apply the additional computation before the formatting. However, when templates are used, and copying is done to another wiki, these templates have to be copied too, or substituted.

If you want to calculate with **Magic words** and return group separated results you can use formatnum:

{{formatnum: {{#expr: {{NUMBEROFPAGES:R}} - {{NUMBEROFFILES:R}} }}
 = 10,490,314 (instead of 10490314).

See also

- Help:Mod, round, floor, ceil, trunc
- Help:Calculation accuracy
- Help:Comparison between ParserFunctions syntax and TeX syntax
- Category:Mathematical templates
- mw:Extension:MathStatFunctions
- mw:Extension:Foxway
- http://svn.wikimedia.org/svnroot/mediawiki/trunk/extensions/ParserFunctions/Expr.php

- div** and **mod** are different from all programming languages, see phab:T8068

Links to other help pages

Help contents

Meta (https://meta.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikinews (https://en.wikinews.org/wiki/Special:Allpages?namespace=12) · Wikipedia (https://en.wikipedia.org/wiki/Special:Allpages?namespace=12) · Wikiquote (https://en.wikiquote.org/wiki/Special:Allpages?namespace=12) · Wiktionary (https://en.wiktionary.org/wiki/Special:Allpages?namespace=12) · Commons: (https://commons.wikimedia.org/wiki/Special:Allpages?namespace=12) · Wikidata (https://www.wikidata.org/wiki/Special:Allpages?namespace=12) · MediaWiki (https://www.mediawiki.org/wiki/Special:Allpages?namespace=12) · Wikibooks (https://en.wikibooks.org/wiki/Special:Allpages?namespace=12) · Wikisource (https://en.wikisource.org/wiki/Special:Allpages?namespace=12) · MediaWiki: Manual (https://www.mediawiki.org/wiki/Special:Allpages?namespace=100) · Google

Versions of this help page (for other languages see further)

What links here on Meta or from Meta (https://meta.wikimedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Calculation) · Wikipedia (https://en.wikipedia.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Calculation) · MediaWiki (https://www.mediawiki.org/wiki/Special:Linksearch?target=//meta.wikimedia.org/wiki/Help:Calculation)

Reading

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Tracking changes

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Wikitext examples · CSS · Reference card · HTML in wikitext · Formula · List · Table · Sorting · Colors · Images and file uploads

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Advanced functioning

Expansion · Template · Advanced templates · Parser function · Parameter default · Variable · System message · Substitution · Array · Calculation · Embed page

Others

Special characters · Renaming (moving) a page · Preparing a page for translation · Talk page · Signatures · Sandbox · Legal issues for editors

Languages:	English · slovenščina (https://meta.wikimedia.org/w/index.php?title=Help:Calculation/sl&uselang=sl)
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Help:Transclusion

Detailed reference page on this subject: [Help:Template](#).

Transclusion refers to the process by which the entire contents of a page are inserted on to another page for the sake of convenience, speed of editing and/or tidiness of the source [wikitext](#).

Contents

Syntax

Templates

Link that is created

Embedded special pages

Examples

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Syntax

The process works by applying the title of the page to be transcluded, with two braces `{{}}` on either side. If no namespace is provided, it defaults to the [template namespace](#); adding a colon after the first pair of braces causes it to transclude from the main namespace instead.

Templates

Pages created for the sole purpose of being useful to transclude are known as [templates](#). Templates come in many varieties; some templates constitute generic messages that can be quickly and easily sent, while others contain pieces of text that are used in mass quantities. The use for these quick pieces of text or code are almost limitless, and there are literally hundreds of thousands in current use all over Wikimedia. They have their own [namespace](#), *Template:*.

The braces assume, and it is implied by default, that the template namespace is to be transcluded; i.e., the syntax assumes that `{{FOO}}` refers to [Template:FOO](#). However, all kinds of pages can be transcluded in every namespace so long as the namespace is specified: e.g., `{{Meta:Help}}` would be a viable and workable transclusion. Because of **template:** vs (*main*) confusion when transcluding, pages with no namespace prefix, as this one (**Transclusion**), are transcluded with a colon preceding the page name, like this: `{{:Transclusion}}`.

Link that is created

It is important to remember that transclusion creates a very real and direct link between the target page and the transcluded one; when the source page is changed, the transcluded text is changed with it. This especially applies to templates that are in mass use; many pages can be altered very radically by a small change. The volatility of this situation should be considered when making changes.

It is possible to see what pages are transcluded on a page, and where a page is transcluded, by use of the "What links here" link in the toolbox in the left hand panel.

Embedded special pages

The default installation of MediaWiki allows you to embed only selected special pages, such as (depending on version):

- [Special:Allpages](#)
- [Special:Prefixindex](#)
- [Special:Listfiles](#)
- [Special:Newimages](#)
- [Special:Newpages](#)
- [Special:Recentchanges](#)
- [Special:Recentchangeslinked](#)

See also [Help:Special pages#Links to special pages](#).

Examples

The following is an example of a transclusion of [Sample Page](#):

--- This page is a sample page, used as an example in [Help:Embed page](#).

See also

- [ParserFunctions](#)
- [Help:Variable](#)

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Help:Special characters

From MediaWiki 1.5, all projects use **Unicode (UTF-8)** character encoding. Many characters, including CJK characters, can be in the wikitext itself. They use a variable number of bytes per character.

Contents

Important special characters

Editing

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 - IE for the Mac
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- Changing Internet Explorer's (IE) default font

Linking text with special characters

Alt keycodes

Characters and formulas which are not directly entered as wikitext

- Characters and formulas displayed as image

See also

External links

Links to other help pages

Important special characters

Umlauts and accents: À Á Â Ã Ä Å Æ Ç È É Ê Ë Ì Í Î Ï Ñ Ò Ó Ô Õ Ö Ø Ù Ú Û Ü ß à á â ã ä å æ ç è é ê ë ì í î ï ñ ò ó ô õ ö ø ù ú û ü ÿ

Punctuation: ¿ ¡ « » § ¶ † ‡ • – —

Commercial symbols: ™ © ® ¢ € ¥ £ ¨

Greek characters: α β γ δ ε ζ η θ ι κ λ μ ν ξ ο π ρ σ τ υ φ χ ψ ω Γ Δ Θ Λ Ξ Π Σ Φ Ψ Ω

Math characters: ∫ ∑ ∏ √ − ± ∞ ≈ ∝ ≡ ≠ ≤ ≥ × · ÷ ∂ ′ ″ ∇ ‰ ∅ ∈ ∩ ∪ ⊂ ⊃ ⊆ ⊇ ¬ ∧ ∨ ∃ ∀ ⇒ ⇔ → ⇐ ⇔ ↑ ∞ ∉ °

For more, see w:Table of mathematical symbols.

Subscripts and superscripts as special characters (here shown with x): x₀ x₁ x₂ x₃ x₄ x₅ x₆ x₇ x₈ x₉ x⁰ x¹ x² x³ x⁴ x⁵ x⁶ x⁷ x⁸ x⁹

Compare, as alternative and for other sub- and superscripts:

- <sub>x<sub<sub><sub> → x_k [1] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=x%3Csub%3Ek%3C%2Fsub%3E&removecomments=true>)
- <sup>x<sup><sup> → x^k [2] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=x%3Csup%3Ek%3C%2Fsup%3E&removecomments=true>)
- {{#tag:math|x_k}} → *x*_{*k*} [3] (https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%7B%7B%23tag%3Amath%7cx_k%7D%7D&removecomments=true)
- {{#tag:math|x^k}} → *x*^{*k*} [4] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wplInput=%7B%7B%23tag%3Amath%7cx%5Ek%7D%7D&removecomments=true>)

Editing

Ways to enter a non-ASCII character into the wikitext:

- Use a link to a special character listed under the edit box to insert that character. Wikis need Extension:CharInsert for this. Which characters are displayed depends on the wiki, and on user preference settings; sometimes lists are collapsible, or there is a menu to select a list.

- Copy the character from some list on a webpage, like that above, or from a locally stored page. The character should not be an image or part of an image, hence for example not an image produced by the TeX feature of the wiki. Thus one can copy for example from the characters in the first column of w:Table of mathematical symbols.
- Use a special keyboard function (or enter the character directly from a foreign keyboard).
- Use a special browser function.
- Use an HTML named character entity reference like `à` or HTML numeric character reference like `¡`, and copy the character from preview. In the past the code itself had to be stored in the wikitext. Such codes may still be present on some pages. Results of the internal search function may be affected by this. On the other hand, this search function cannot find some characters, including "→", while if it is coded as "→", it can be found by searching for "rarr". See also Help:Searching.

Esperanto

MediaWiki installations configured for Esperanto use UTF-8 for storage and display. However when editing the text is converted to a form that is designed to be easier to edit with a standard keyboard.

The characters for which this applies are: Ĉ, Ĝ, Ĥ, Ĵ,Ŝ, Ŭ, ĉ, ĝ, ĥ, ĵ, ŝ, and ŭ. You may enter these directly in the edit box if you have the facilities to do so. However when you edit the page again you will see them encoded as Sx. This form is referred to as "x-sistemo" or "x-kodo". In order to preserve round trip capability when one or more x's follow these characters or their non-accented forms (C, G, H, J, S, U, c, g, h, j, s, u), the number of x's in the edit box is double the number in the actual stored article text.

For example, the interlanguage link [[en:Luxury car]] to en:Luxury car has to be entered in the edit box as [[en:Luxxury car]] on eo:. This has caused problems with interwiki update bots in the past.

in edit box	in database and output
S	Ŝ
Sx	Ŝ
Sxx	Sx
Sxxx	Ŝx
Sxxxx	Sxx
Sxxxxx	Ŝxx

Browser issues

Some browsers are known to do nasty things to text in the edit box. Most commonly they convert it to an encoding native to the platform (whilst the NT line of Windows is internally UCS-2LE (2 Byte subset of UTF-16) it has a complete duplicate set of APIs in the Windows ANSI code page and many older apps tend to use these, especially for things like edit boxes). Then they let the user edit it using a standard edit control and convert it back. The result is that any characters that do not exist in the encoding used for editing get replaced with something that does (often a question mark though at least one browser has been reported to actually transliterate text!).

IE for the Mac

This relatively common browser translates to mac-roman for the edit box with the result it munges most Unicode stuff (usually but not always by replacing them with a question mark). It also munges things that are in ISO-8859-1 but not mac-roman (specifically æ ı ¹ ² ³ ¼ ½ ¾ Ð × Ý Þ ð ý þ and the soft hyphen) so the problems it causes are not limited to Unicode wikis (though they tend to be much worse on Unicode wikis because they affect actual text and interwiki links rather than just fairly obscure symbols).

Netscape 4.x

Similar issues to IE Mac though the character set converted to and from will obviously not always be mac-roman.

Console browsers

Lynx, Links (in text mode) and W3M convert to the console character set (Lynx and Links actually using a transliteration engine) for editing and convert back on save. If the console character set is UTF-8 then these browsers are Unicode safe but if it isn't they aren't. With Lynx and Links a possible detection method would be to add another edit box to the login form but this won't work for W3M as it doesn't convert the text to the console character set until the user actually attempts to edit it.

The workaround

After English Wikipedia switched to UTF-8 and interwiki bots started replacing html entities in interwikis with literal unicode text, edits that broke unicode characters became so common they could no longer be ignored. A workaround was developed to allow the problematic browsers to edit safely provided that MediaWiki knew they have problems.

Browsers listed in the setting \$wgBrowserBlackList (a list of regexps that match against user agent strings) are supplied text for editing in a special form. Existing hexadecimal html entities in the page have an extra leading zero added, non-ascii characters that are stored in the wikitext are represented as hexadecimal html entities with no leading zeros.

In database and edit box for normal browsers	In editbox for trouble browsers
œ	œ
œ	œ
œ	œ

Currently the default settings only have IE mac and a specific version of netscape 4.x for linux in the blacklist. Nevertheless it seems to have stopped most of the problem.

Viewing

Most current browsers have some level of Unicode support but some do it better than others. The most commonly encountered problem is that Internet Explorer relies on preconfigured font links in the registry rather than actually searching for a font that can display the character in question. This means that Internet Explorer often has to be forced to use particular fonts. On English Wikipedia there are a set of templates to do this. For example for general Unicode text, for polytonic Greek and for the International Phonetic Alphabet. The stuff in Windows Glyph List 4 should be safe to use without such special measures.

... may work, but only for people with that font.

Displaying special characters

To display Unicode or special characters on web page(s), one or more of the Unicode fonts need to be present or installed in your computer, first. For proper working functionality, *setup* or *configuration* or *settings* from the web page viewing browser software also needs to be modified.

The default font for Latin scripts in Internet Explorer(IE) web browser for Windows is Times New Roman. It doesn't include many Unicode blocks. To properly view special characters in IE, you must set your browser font settings to a font that includes many Unicode blocks of characters, such as Lucida Sans Unicode font, which comes with Windows XP, DejaVu Sans, TITUS Cyberbit, GNU Unifont which are freely available, or Arial Unicode MS, which comes with Microsoft Office. See subsection below for specific instructions.

Alternatively, the style sheet page related to the web page(s), could also try using Unicode-range specifications to note the gaps where *Times New Roman* does not have glyphs from Unicode blocks, such as, Hawaiian ʻokina (glottal stop), etc. and thus force the browser to check further down the list of next fonts to try to display those special characters.

Special symbols should display properly without further configuration with Mozilla Firefox, Konqueror, Opera, Safari and most other recent browsers. An optional step can be taken for better (and correct) display of characters with ligature forms, combined characters, after the previously mentioned steps were followed, is to install a rendering engine software.

To use one of the available Unicode fonts for displaying special characters inside a table or chart or box, specify the **class="Unicode"** in the table's **TR** row tag (or, in each TD tag, but using it in each TR is easier than using it in each TD), in wiki table code, use that after the (TR equivalent) "|-" (like, |- **class="Unicode"**).

For displaying individual special character, template code for each character can be used. HTML decimal or hexadecimal numeric entity codes can be used in the place of the *char*. If a paragraph with lots of special Unicode characters need to be displayed, then, , or, code can also be used.

The class="Unicode" is to be used in web page(s), HTML or wiki tags, where various characters from wide range of various Unicode blocks need to be displayed. If the special characters that need to be displayed on web page(s), are mostly covering fewer Unicode blocks, related to latin scripts, then **class="latinx"** can be used. For special characters or symbols related to International Phonetic Alphabet, **class="IPA"** can be used. For polytonic (Greek) characters or related symbols, **class="polytonic"** can be used.

Changing Internet Explorer's (IE) default font

From the IE menu bar, follow this path: Tools -> Internet Options -> Fonts -> Webpage Font:

to a scrolling list of fonts. As indicated above, the default selection for Windows is Times New Roman. For viewing of many special characters, select a different font, such as Lucida Sans Unicode, and then select **OK**.

Linking text with special characters

Many users have settings giving underlined links. When linking a special character, in some cases the result may be mistaken for another character with a different meaning:

Linking gives which may look like . In such cases one can better use a separate link:

- (see subset)

There is less risk of confusion if more than one character is linked, e.g. .

Alt keycodes

See also : *[Alt codes](#)*, *[Windows Alt keycodes](#)*

Many special characters which have decimal equivalent codepoint numbers that are below 256, can be typed in by using the keyboard's **Alt + Decimal** equivalent code numbers keys.

For example, the character **é** (Small e with acute accent, html entity code "é") can be obtained by pressing Alt + 130.

Which means, first press the "Alt" key and keep on pressing it (or keep on holding it), with your left hand, then press the digit keys 1, 3, 0, in sequence, one by one, in the right-side Numeric Keypad part of the keyboard, then release the Alt key.

But special characters, for example, λ (small lambda) cannot be obtained from its decimal code 955 or 0955, by using it with the Alt key, if used inside Notepad or Internet Explorer (IE). You'll get wrong character "ᳵ" or "»".

The "Wordpad" (Windows Operating system) editor accepts the decimal (numeric entity codepoints) values above 256, so it can be used to obtain the Special/Unicode characters, then copy-paste where you need.

To obtain such special characters correctly, which have decimal codepoint values above the 256, another option is to use or type its hex equivalent codepoint first, then press **Alt+X** keys. To do this, open or start *Wordpad*, *Word*, etc editing application software, (this Alt+X process will not work in Internet Explorer, Notepad, etc). Type in **3BB**, which is a hexadecimal equivalent numeric codepoint of the character λ, then press Alt+X. Hexcode *3BB* will convert/turn into the λ character. If you press the Alt+X key combination again, then λ character will convert back to its hex equivalent codepoint, *3BB*. Now character(s) can be copy pasted, where you want to use, or, (in IE) use its html hexadecimal equivalent code λ or its html decimal equivalent code λ.

Characters and formulas which are not directly entered as wikitext

- _k → xₖ [5] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=x%3Csub%3Ek%3C%2Fsub%3E&removecomments=true>)
- ^k → x^k [6] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=x%3Csup%3Ek%3C%2Fsup%3E&removecomments=true>)

Alternative wikitext for characters that can directly be entered as wikitext:

- → gives →, etc.

Characters and formulas displayed as image

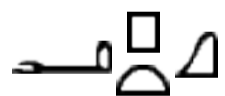
Displaying additional characters and also formulas:

For example: {{#tag:math|\sqrt x}} → √x [7] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%7B%7B%23tag%3Amath%7c%5Csqrt+x%7D%7D&removecomments=true>)

A [user preference setting](#) controls to what extent HTML code is used, if possible, and to what extent images. See [Help:Displaying a formula](#).

Egyptian hieroglyphs:

For example: {{#tag:hiero|a-p:t-q}} →



[8] (<https://meta.wikimedia.org/w/index.php?title=Special:ExpandTemplates&wpInput=%7B%7B%23tag%3Ahiero%7ca-p%3At-q%7D%7D&removecomments=true>)

See [mw:Extension:WikiHiero/Syntax](#).

See also

- [Help:Advanced editing#Special characters](#)
- [Help:Displaying a formula](#)
- [Help:URL](#)
- [Help:Romanian characters](#)
- [Help:Turkish characters](#)
- [w:Help:Special characters](#)
- [Mapping of Unicode characters](#)
- [Runic alphabet](#)
- [Alphabets derived from the Latin](#)

- [Unicode input methods](#)
- [Windows Alt keycodes chart and Alt+X keycodes chart.](#)
- [w:Help:Wiki markup#Special characters](w:Help:Wiki_markup#Special_characters)
- [hotkeys.js](#) – tool for easily entering special characters via definable Ctrl-key mappings

External links

- <http://www.unicode.org/charts/> Unicode character charts; hexadecimal numbers only; PDF files showing all characters independent of browser capabilities
- http://www.unicode.org/help/display_problems.html Help for enabling Unicode support on most platforms
- [Table of Unicode characters from 1 to 65535 \(http://unicode.coeurlumiere.com/\)](http://unicode.coeurlumiere.com/) - shows how the decimal character references look in one's browser
- [HTML 4.0 Character Entity References \(http://www.alanwood.net/demos/ent4_frame.html\)](http://www.alanwood.net/demos/ent4_frame.html) - shows how the named and decimal character references look in one's browser
- [FileFormat.Info \(http://www.fileformat.info/info/unicode/block/index.htm\)](http://www.fileformat.info/info/unicode/block/index.htm) - details of many Unicode characters, including the named, decimal and hexadecimal character reference, showing how it should look and for each, how it looks in one's browser
- [Alan Wood's Unicode Resources \(http://www.alanwood.net/unicode/index.html\)](http://www.alanwood.net/unicode/index.html) - comprehensive resource with character test pages for all Unicode ranges, as well as OS-specific Unicode support information and links to fonts and utilities.
- [CharacterPal \(http://www.tacowidgets.com/widgets/characterpal/\)](http://www.tacowidgets.com/widgets/characterpal/) - Free Mac OS X Dashboard Widget that displays key combinations for special characters.
- [A convertor \(http://rishida.net/tools/conversion/\)](http://rishida.net/tools/conversion/) that helps you find the right escape sequence to use - helps when you need to escape ASCII/Unicode characters that are special characters in wiki markup

Links to other help pages

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Help:Talk page

There are two types of **talk pages** – standard talk pages are used to discuss an article, while user talk pages are used to communicate with other users or leave them messages. Every page has an associated talk page, except pages in the *Special: namespace*. If there is no discussion of a page, the link to its talk page will be red. You can still discuss the page - you will just be the first person to do so.

Contents

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Using talk pages

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Accessing a talk page

To access a talk page look for a link labeled *Talk*, *Discussion* or *Discuss this page*. These links will be found either at the top of the page or on the left hand side (near *Edit this page*).

A talk page adds *Talk:* to the beginning of the main page's title. If the main page has a prefix then talk is added after this prefix. For example, a talk page associated with the main article namespace simply has the prefix *Talk:*, while a talk page associated with the user namespace has the prefix *User talk:*. This article is in the *Help:* namespace, so the talk page for this article is Help talk:Talk page. The Main Page is in the main namespace (because it has no prefix), so its talk page is simply Talk:Main Page.

After someone else edits your user talk page, the alert "You have new messages" is automatically displayed on all pages you view, until you view your user page.

Using talk pages

You should sign your contributions by typing three or four tildes:

- (~ ~ ~ = Username)
- (~ ~ ~ ~ = Username 08:08, 24 September 2018 (UTC)).

See Help:Automatic conversion of wikitext.

On a talk page, "this page" usually refers to the main page (i.e. the page the talk page is associated with). If the talk page itself is referred to, write "this talk page".

When debating the name of the page or discussing merging it with another page, always mention the current page name. Otherwise after renaming (moving) a page, references to "this page name" become ambiguous.

The "Post a comment" feature allows you to start a new section without needing to edit the whole page. The section header becomes the edit summary when you save the page, so it only needs to be typed once.

The practice of "spamming" – posting similar messages to more than a few users' talk pages, often for the purpose of soliciting a certain action - is discouraged.

Formatting

Because the wiki software platform provides for a wide range of formatting styles, proper or at least consistent formatting is essential to maintaining readable talk pages.

The reference of a comment is determined by the number of colons (':') in front of it. If a reply is made to a statement, one adds a colon to the number of colons used in the statement being replied to. This style of conversation is easy to read.

Example:

```
How's the soup? --[[User:Bob|]]
:It's great!! --[[User:Lisa|]]
::Not too bad... --[[User:Georgel|]]
:::I made it myself! --[[User:Bob|]]
I think the soup-discussion should be moved to [[Talk:Soup]]... --[[User:Lisa|]]
:I tend to disagree. --[[User:Georgel|]]
```

The above will produce this:

```
How's the soup?--Bob

    It's great!! --Lisa

        Not too bad... --George

            I made it myself! --Bob

I think the soup-discussion should be moved to Talk:Soup... --Lisa

    I tend to disagree. --George
```

See also

- Template talk page
- [MessageBox](#) on Meatball Wiki

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Help:Signature

Users can easily **sign** their posts at the end of a comment. Signing is normally done on talk pages only, not on conjointly written articles.

Default signature options


There are three default options. Four tildes are standard (full signature). Typing three tildes results in a username-only signature (without timestamp). Typing five tildes results in a pure timestamp (without username).

Function	Wiki markup (replaced when saving)	Resulting wiki code	Resulting display
Signature plus timestamp	<div style="border: 1px dashed black; padding: 5px;">-----</div>	<code>[[User:Username Username]] 12:34, 1 February 2008 (UTC)</code>	Username 12:34, 1 February 2008 (UTC)
Signature alone	<div style="border: 1px dashed black; padding: 5px;">---</div>	<code>[[User:Username Username]]</code>	<u>Username</u>
Timestamp alone	<div style="border: 1px dashed black; padding: 5px;">-----</div>	<code>12:34, 1 February 2008 (UTC)</code>	12:34, 1 February 2008 (UTC)

If you edit without logging in, your IP address will take the place of a username. Usernames and IP addresses are also stored in as a record of who wrote what, so others can always verify signatures.

The common format to type a signature – two hyphens (or a long dash) followed by four tildes (– – – –) – is derived from the computer network Usenet, where two hyphens mark a signature block. Note that the hyphens or dash are not inserted automatically and have to be entered (unless you customize your signature to include them, see an example in the next section).

The actual signature string, the tildes, automatically get substituted with username (linked to the appropriate user page) and timestamp (time/date), when you save a signed edit. This helps other users to follow the chronological order of discussions, and to identify the author of a particular comment.

If you don't find the tilde on your keyboard, you can use the signature button  of the default as a typing aid.

Signatures do not work in edit summaries (they do not translate from ~~~~ there), but of course there would be no need to use this in an edit summary. The date and your user name are recorded and displayed against edits anyway.

Note that timestamps are currently formatted by default and saved according to the default locale conventions (language, script, date and time format) used on each wiki, and **not** according to the conventions of your current preferred language.

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Registered users can customize their signature (the part between the two hyphens and the timestamp) by changing the field "Nickname (optional, for signatures):" in their preferences. By default, anything you enter there will be wrapped with `[[]]`. To use a special linking (without this automatic link), you have to enable "Raw signatures." Then you can add Wiki markup and also HTML (as far as allowed on the wiki) as you like, but the maximum length is 255 characters. Please note that striking signatures are often disliked by other users.

Note that if you customize your signature, you should avoid displaying the identity of another unrelated user account, unless you also own this account or are explicitly authorized by this user: the link should unambiguously point to **your** effective user page or talk page on the local wiki. However, changing your signature will **not** override the username that is recorded in page histories. Some wikis may also have defined a restricting policy about the usage of external links or images in signatures. Look at the policies documented and on enforced your local wiki about user accounts and identities.

If you enable "Raw signatures" but don't add any customized signature string, you'll sign with your unlinked username.

The most common customizations are the following:

Purpose	Raw signature	Resulting signature display (generated by four tildes)
Embedding the dashes in the signature	<code>-- [[User:Username Username]]</code>	-- <u>Username</u> 12:34, 1 February 2008 (UTC)
Adapting the displayed username to your convenience	<code>[[User:Username Preferred Name]]</code> <code>User</code>	<u>Preferred User Name</u> 12:34, 1 February 2008 (UTC)
Adding a talk page link	<code>[[User:Username Username]]</code> <code>([[User talk:Username talk]])</code>	<u>Username (talk)</u> 12:34, 1 February 2008 (UTC)

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Sandbox

Welcome to the **meta-sandbox**. Feel free to use this page for experiments; see also our [help pages](#). Content added here will *not* last for long.

[reset edits \(https://meta.wikimedia.org/w/index.php?title=Meta:Sandbox&action=edit&oldid=15759999&summary=Reset+sandbox\)](https://meta.wikimedia.org/w/index.php?title=Meta:Sandbox&action=edit&oldid=15759999&summary=Reset+sandbox)

Please edit below this line

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Help:Legal issues for editors

The Wikimedia Foundation hosts its project sites under the terms of United States law, and editors are asked to be considerate of the potential legal implications (both to themselves and to the Foundation) inherent in their activity on any Wikimedia site.

Copyright



This section in a nutshell: Give credit where credit is due.

The various Wikimedia projects seek to distribute information under a free license (sometimes known as "copyleft"). This means that the content on Wikimedia projects, in most cases, may be copied and reused elsewhere, just so long as the content is attributed to its authoring source, and that the ensuing copy of the content is also similarly released under free license.

In 2009, the Wikimedia Foundation pushed through an update to the legacy [GNU Free Documentation License](http://www.gnu.org/copyleft/fdl.html) (<http://www.gnu.org/copyleft/fdl.html>), such that the [Creative Commons Attribution-ShareAlike \(CC-BY-SA\)](http://creativecommons.org/licenses/by-sa/3.0/) (<http://creativecommons.org/licenses/by-sa/3.0/>) license is now used alongside the GFDL. When bringing new content into publication on any Wikimedia project, don't just copy and paste without attributing the author. That is plagiarism, and it is not only ethically wrong, it potentially brings legal risk to yourself and possibly the Wikimedia Foundation. Rights-reserved copyright is an honorable tradition, too, and it should be respected.

Watch the policies of the site that you are working on. Depending on the project site, you may be assigning the copyright to the public domain, or you may retain the copyright, but under specific terms of re-use. Because of the free-wheeling activity on a wiki, it is potentially "easy" to violate the copyright of others, but this should never become the rule.

Defamation



This section in a nutshell: Do not publish false witness.

While [Section 230 of the United States code under the Communications Decency Act](#) does provide certain protections from civil libel and defamation cases for the hosts of interactive computer content, no similar law protects the individual who willfully acts to improperly defame or libel another individual or corporation on an Internet site or forum. That is, if you elect to use a Wikimedia Foundation website as a platform to defame or libel someone, the United States law will largely shield the Wikimedia Foundation from prosecution, but will do nothing to protect *you* from prosecution. In fact, in order to comply with Section 230, the Wikimedia Foundation will likely assist the prosecution in rendering identifying server information that would assist in bringing the perpetrator to justice.



This article is a stub. You can help Meta (and test-projects) by [expanding it \(https://meta.wikimedia.org/w/index.php?title=Help:Legal_issues_for_editors&action=edit\)](https://meta.wikimedia.org/w/index.php?title=Help:Legal_issues_for_editors&action=edit).

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