

## A L<sup>A</sup>T<sub>E</sub>X reference manual

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### Abstract

The L<sup>A</sup>T<sub>E</sub>X Reference Manual summarizes the features of L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. It can be a valuable resource for authors using L<sup>A</sup>T<sub>E</sub>X and deserves to be better known.

### 1 Introduction

The L<sup>A</sup>T<sub>E</sub>X Reference Manual, `latexrefman`, aims to provide a freely available document summarizing the commands and environments of L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. It is unofficial, not associated with the L<sup>A</sup>T<sub>E</sub>X project.

You can see a current copy, in a variety of formats, either at the project home page<sup>1</sup> or on CTAN<sup>2</sup>.

This work brings together an array of L<sup>A</sup>T<sub>E</sub>X sources and documentation and organizes that material into a reference format. Its base language is English; presently, there are French and Spanish translations.

This project deserves to be better known, among both potential users and potential contributors.

### 2 For potential users

`latexrefman` is a resource that can be valuable to L<sup>A</sup>T<sub>E</sub>X authors while they are writing.

#### 2.1 Why more documentation?

There are many works on L<sup>A</sup>T<sub>E</sub>X: tutorial and advanced, online and on paper, in many languages and at many levels of sophistication.

The chief distinction of `latexrefman` is that it is a reference manual. If, for instance, you can't remember the specifics of the syntax of a command then you can go directly to that command's entry. There will be a complete description, including all of the salient technical points as well as an overview, and hyperlinks to related entries.

An example of the difference between a reference and other works is that here each entry assumes whatever level of reader sophistication is needed to cover the topic. For instance, an entry might specify that the argument of a command is typeset in LR mode, which a tutorial is likely not to state.

In addition, `latexrefman` is organized by command. For instance, the major L<sup>A</sup>T<sub>E</sub>X environments each get a separate entry.

`latexrefman` now covers the commonly-used commands and environments. The entries work to make fine distinctions clear. They also give the values

<sup>1</sup> <http://home.gna.org/latexrefman/>

<sup>2</sup> <https://ctan.org/pkg/latex2e-help-texinfo>

of various parameters in the standard L<sup>A</sup>T<sub>E</sub>X classes. It is online so it can be easily accessed and so that searches and hyperlinks are also easy.

In short, the document is written with a focus on being useful to a working L<sup>A</sup>T<sub>E</sub>X author who is typing, who runs across an issue, and who wants a convenient way to see all the information needed to resolve the issue, presented in one place.

### 2.2 Sources

The information in this manual is available from other L<sup>A</sup>T<sub>E</sub>X sources and documentation, but is scattered. Besides the ultimate reference of the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> source code, and books such as [1] and [2], there are also many reputable online sources including the *Comprehensive Symbols List*<sup>3</sup> and the *Users Guide for amsmath*<sup>4</sup>. The work of this project is to bring these diverse sources together and synthesize the information into a reference form.

This project has an advantage over reference manuals for other subjects: the existence of online forums. The T<sub>E</sub>X family has a long history and is also blessed with a helpful community so there are a number of long-lived forums, including the Usenet group `comp.text.tex`,<sup>5</sup> the mailing list `texhax`,<sup>6</sup> the T<sub>E</sub>X-L<sup>A</sup>T<sub>E</sub>X Stack Exchange,<sup>7</sup> and the Reddit subgroup `/r/LaTeX`.<sup>8</sup> This great body of material not only provides authors of a reference with answers that may be hard to find elsewhere but, just as importantly, provides those authors with questions showing what gives users trouble. If online research reveals a question about a topic that has puzzled L<sup>A</sup>T<sub>E</sub>X users over a long time then we can increase the value of the reference by including explanation or examples specifically addressing that question.

### 2.3 Coverage

At present, `latexrefman` covers the most-used commands and environments of core L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>.

We do not plan to ever cover a broad, let alone complete, range of packages from CTAN. Instead, the plan is to exhaustively cover all of core L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. That goal remains rather distant; thus, additional project contributors would be most welcome.

<sup>3</sup> <https://ctan.org/pkg/comprehensive/>  
<sup>4</sup> <ftp://ftp.ams.org/pub/tex/doc/amsmath/amsl.doc.pdf>  
<sup>5</sup> <https://groups.google.com/forum/#!forum/comp.text.tex>

<sup>6</sup> <http://lists.tug.org/texhax>

<sup>7</sup> <http://tex.stackexchange.com/>

<sup>8</sup> <http://www.reddit.com/r/latex>

### 3 For potential contributors

This is a project where a person looking for a way to give back to the community can make a real contribution without a lot of initial effort. You can start off small by finding some improvement on an existing entry, or a missing one, and submitting a suggestion or a patch.

You could submit that improvement via the mailing list. You can also download the document source. You can reach both at the project's home page.<sup>9</sup>

The document source is in Texinfo.<sup>10</sup> To give a feel for this, here are parts of the source of the entry on L<sup>A</sup>T<sub>E</sub>X's *quotation* and *quote* environments.

It begins with the syntax of the two:

Synopsis:

```
@example
\begin@{quotation@}
@var{text}
\end@{quotation@}
@end example
```

or

```
@example
\begin@{quote@}
@var{text}
\end@{quote@}
@end example
```

The most obvious difference from writing in L<sup>A</sup>T<sub>E</sub>X is that the at sign @ takes the place of backslash as the escape character, including the escaping used in @example and @end but also including escaping the braces as @{ and @}. There is (intentionally) little in the way of macros so writing is relatively straight-ahead—a person used to L<sup>A</sup>T<sub>E</sub>X does not need to ramp up much to start working with the source.

Here is a little more, later in the same entry:

```
To compare the two: in the
@code{quotation} environment, paragraphs
are indented by 1.5@dmn{em} and the space
between paragraphs is small,
@code{0pt plus 1pt}. In the @code{quote}
environment, paragraphs are not indented
and there is vertical space between paragraphs
(it is the rubber length @code{\parsep}).
```

We see here that, as discussed earlier, there is a focus on the working L<sup>A</sup>T<sub>E</sub>X author. The body addresses the question of when to choose one environment or the other.

<sup>9</sup> <http://home.gna.org/latexrefman>

<sup>10</sup> <https://www.gnu.org/software/texinfo/>

In addition, you can see that the reference manual strives to give precise default values, as actually defined, rather than vague circumlotions. These numbers come from the L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> source files. So this is an example of a way that a person can make a useful contribution back to the community: spend a little time tracking down values that are not yet specified.

Finally, that entry closes with an example that is short but is also cut-and-pasteable. That is, this example is designed to be one that would get our hypothesized L<sup>A</sup>T<sub>E</sub>X author started.

```
@example
\begin@{quotation@}
\it Four score and seven years ago
... shall not perish from the earth.
\hspace@{1em plus 1fill@}---Abraham Lincoln
\end@{quotation@}
@end example
```

There are other things in the source file not shown here, notably cross-reference information. In addition, the source is in a Subversion repository. But both are easy to get used to.

### 3.1 History of contributions

This project has been around, in various forms, for a long time. George Greenwade started it as help files for VMS. It was updated for L<sup>A</sup>T<sub>E</sub>X 2.09 by Stephen Gilmore and for L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> by Torsten Martinsen. Today, active contributors are Vincent Belaïche, Karl Berry, and Jim Hefferon. Vincent also maintains the French translation and has made some updates to the Spanish translation, but reports that Spanish needs a new maintainer. Translations to more languages would be most welcome.

### 4 Summary

The L<sup>A</sup>T<sub>E</sub>X Reference Manual aims to provide a freely available document summarizing the features of L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. In its current state it can be a useful resource for L<sup>A</sup>T<sub>E</sub>X authors. Give it a try!

It plans eventually to cover all of the commands of core L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub>. Contributors are very welcome.

### References

- [1] Leslie Lamport. *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*. Addison-Wesley, second edition, 1986.
- [2] Frank Mittelbach, Michel Goossens, Johannes Braams, David Carlisle, and Chris Rowley. *The L<sup>A</sup>T<sub>E</sub>X Companion (Tools and Techniques for Computer Typesetting)*. Addison-Wesley, second edition, 2004.

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References to the official LaTeX documentation and to documentation that is available on the net. Also contains a non-English documentation section.Â General documentation. A short introduction to LaTeX (with some focus on the differences between the old LaTeX 2.09 and current standard LaTeX2e) is given in the following document: LaTeX2e for authors. For more extensive introductory documentation take a look at the links to contributed documentation that have their own page. Unlike most LaTeX manuals, the strength of the Ultimate LaTeX Reference Guide is in its brevity and density. In fact, if you're like us, you might find yourself referring to the guide every now and then during your LaTeXing processes! Covered Topics. In case you're wondering, here's what the Ultimate LaTeX Reference Guide includes in a nutshell: Documentclass macro and its parameters. Recommended codes for preamble. In LaTeX you can easily reference a section by using `\label{}` next to a section and then `\ref{}` to create the reference. However, the reference only includes the number of the section, or the page with `\pageref{}`. I would like to insert a reference containing the text of the section.Â This command creates a reference with additional text corresponding to the targets type, all of which will be a hyperlink. For example, the command `\autoref{sec:intro}` would create a hyperlink to the `\label{sec:intro}` command, wherever it is. An online LaTeX editor that's easy to use. No installation, real-time collaboration, version control, hundreds of LaTeX templates, and more.Â Prints the list of cited references, the default title is "References" for the article document class and "Bibliography" for books and reports. Overleaf provides several templates with pre-defined styles to manage bibliographies. See this link.