

# L<sup>A</sup>T<sub>E</sub>X Useful links and some examples

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February 17, 2017

## Contents

<b>1 List of resources</b>	<b>2</b>
<b>2 Notable Packages</b>	<b>3</b>

## Summary

The following is a brief, certainly not comprehensive summary of some useful things to know about L<sup>A</sup>T<sub>E</sub>X. Some of the text is intended as an example of some L<sup>A</sup>T<sub>E</sub>X function, so it may only be helpful upon studying the source.

## 1 List of resources

### General:

- <http://tex.stackexchange.com/>  
A good place to look for answers to specific questions (or to ask them yourself).
- <http://en.wikibooks.org/wiki/LaTeX>  
A well-organized and easily navigated reference. Useful for both general and specific tutorials.
- <http://www.maths.tcd.ie/~dwilkins/LaTeXPrimer/GSWLaTeX.pdf>  
A detailed introduction to L<sup>A</sup>T<sub>E</sub>X, with a focus on typesetting mathematics.
- <http://www.andy-roberts.net/writing/latex>  
A L<sup>A</sup>T<sub>E</sub>X tutorial for beginners; a good place to look when starting out. The information is nicely organized as well.
- <https://www.economics.utoronto.ca/osborne/latex/BIBTEX.HTM> An introduction to BibTeX (use this for bibliographies!).

### Specific:

- [http://en.wikibooks.org/wiki/LaTeX/Advanced\\_Mathematics](http://en.wikibooks.org/wiki/LaTeX/Advanced_Mathematics)  
Information about fancier mathematics typesetting.

- <http://zelmanov.ptep-online.com/ctan/symbols.pdf>  
A list of symbols.
- <http://www.ctan.org/pkg/comprehensive>  
As the title suggests, a comprehensive list of symbols. If you need a symbol, it's in there somewhere.
- [beamer user guide](#).
- <http://heather.cs.ucdavis.edu/~matloff/beamer.html>  
A quick beamer tutorial.
- <http://www.math.sc.edu/~howard/Classes/790/amsart.html>  
A template for the `amsart` package.

#### Online Editor:

- <https://www.overleaf.com/>  
The online platform for scientific writing based on  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  and lots of template available there.
- <https://www.sharelatex.com/>  
An online  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  editor that's easy to use and lots of template available there.

#### Symbol and Table Generator:

- <http://detexify.kirelabs.org/classify.html>  
Draw your symbol and you will get your code with which package you have to use
- [http://www.tablesgenerator.com/latex\\_tables](http://www.tablesgenerator.com/latex_tables)  
Quickly create even complex  $\text{LaTeX}$  tables online with this – cells merging is supported together with borders editing.

## 2 Notable Packages

- `amsmath`: The standard for typesetting mathematics. Use this!
- `amsfonts`, `amssymb`: Defines math fonts and more symbols than you will ever need.
- `amsthm`: Allows you to create nice theorem-like environments for theorems, lemmas, proofs and so on.
- `hyperref`: Allows for hyperlinks in documents, to websites or to other labels and cross-references within the document.
- `amsart`: Formatting for articles in the AMS style.
- `mathrsfs`: Provides fancy math script using `\mathscr`, e.g.  $\mathcal{F}, \mathcal{L}$ . A less slanted version is available in `rsfs`.

- **mathalfa**: Gives very specific control over which math fonts are loaded and how they are scaled, and corrects some minor formatting issues. This is good to use if you are very picky about fonts and want a centralized loading scheme for them.
- **graphicx**: The standard graphics package for including figures.
- **algorithms**, **algorithmic**: Package for writing pseudocode, with syntax highlighting.
- **listings**: Package for writing code (supports many languages).
- **enumitem**: Extends the list environments (enumerate, etc.). Includes useful tools for adjusting spacing, indentation, and changing the default labeling scheme (a,b,c or 1,2,3, and so on).
- **placeins**: Allows for more precise control over floats (e.g. figures and tables). Includes the useful `\Floatbarrier` command to manually correct uncooperative float placement.
- **xcolor**: Provides some nice tools for defining colors (for use with `hyperref`, for instance). Consider also the color tools in **pstricks**.
- **pstricks**: Provides a powerful suite of macros for drawing all kinds of diagrams (trees, commutative diagrams, arrows, plots, and more) with postscript.
- **bm**: Improves on typesetting bold math with a new `bf` command that replaces `mathbf` and `boldsymbol` from `amsmath`. Often produces more desirable formatting.
- **physics**: Attempts to define better formatting and convenient shorthand for a variety of constructions (function evaluation, inner products, bra-kets, vectors). If you want to type equations more efficiently, this could be useful.
- **mathtools**: Modifies the `amsmath` package and adds some new features for typesetting math.