Getting Started with LaTeX*

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If you are looking for some math symbols, see this page:
`https://en.wikibooks.org/wiki/LaTeX/Mathematics#List_of_Mathematical_Symbols`

LaTeX is a typesetting system. To create a nicely typeset document using LaTeX, you need a LaTeX compiler (a TeX distribution) and a text editor to type in the source of the document. There are many editors (see below). You may choose one of them. Some people use TeXShop that comes with MacTeX (TeX distribution for Mac). Some other people prefer to use Emacs or TeXworks. Below, you will find some links of editors and TeX implementations for different OS types.

Editors:

- A list of editors: `http://en.wikipedia.org/wiki/Comparison_of_TeX_editors`

- Emacs: `https://www.gnu.org/software/emacs/`

- TeXworks Editor: `http://www.tug.org/texworks/#Getting_TeXworks`

LaTeX Implementations:

- MikTeX for Windows OS. `http://miktex.org/download` (There are several choices depending on your machine.)

- MacTeX for Mac OS. `http://www.tug.org/mactex`

- For Linux OS, see `http://miktex.org/howto/build-unx`.

For more information, see `http://en.wikibooks.org/wiki/LaTeX/Installation`.

LaTeX Basics: LaTeX may seem very inconvenient when you first use it. However, you will find yourself using it more than any other word processing

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*This document is intended to give some basic information (and where to find them) about LaTeX.

programs once you become familiar with the language. It is not only a nice tool to typeset equations but also a smart text editing as well as formatting tool. You will rarely concern about the layout of your document. It automatically places texts and figures. You don't have to manually adjust font size and types for each section/subsection/subsub... title. Cross-referencing is done automatically by the LaTeX compiler. Especially, if you plan to go to graduate school, learning LaTeX earlier will help you to reduce the time for settling in.

You may want to read `http://en.wikibooks.org/wiki/LaTeX/Basics` if you would like to know how LaTeX works. You can find almost anything about LaTeX in this website. Is it too long? Here is a quick-start guide. The skeleton code to compose a LaTeX document is:

```
\documentclass{article}
\begin{document}
(Add text here)
\end{document}
```

You will need some packages to use more functionalities. For now, the below packages will probably be enough for you to get started. You can later add more packages if you need. Here is a list of useful packages: `http://en.wikibooks.org/wiki/LaTeX/Package_Reference`. Put the list of packages to use right after the documentclass information:

```
\documentclass{article}
\usepackage{amsmath,amssymb,amsthm,latexsym,paralist}
\begin{document}
(Add text here)
\end{document}
```

Now compile the .tex file that consists of the above five lines. If you use TeXworks, press Ctrl+T (or press the green arrow button at the upper-left corner). It may need installations of the packages. If you have installed a "full" version of LaTeX, packages will be automatically downloaded by the LaTeX system as long as you are connected to the internet. After all packages are installed, the LaTeXsystem can compile your .tex file and produce a .pdf file.

Here are some tips for formatting the text between the `\begin{document}` and `\end{document}` block.

- New line: `\\`

- Mathematical expressions should be enclosed within a pair of $ symbols, for example, `$x=\sqrt{3}$` will be typeset as $x = \sqrt{3}$ and `$n^{12}$` as n^{12}, but `$n^12$` will be typeset as n^12.

- Math symbols: see the wiki page above or documents posted on my course homepage.

- Bold face: `\textbf{text here}` will be typeset as **text here**.

- Italics: `\textit{text here}` will be typeset as *text here*.

- Want no indent after a new line: `\noindent`

Have fun!