Introduction to LaTeX

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1 Introduction and What You Need

LaTeX (pronounced lay-tech or lah-tech) is a typesetting system that allows academics to worry more about the content of a document rather than formatting a document. While LaTeX has a steep learning curve, it is ultimately a time-saver for anyone who frequently creates documents with tables, figures, math equations, game trees, or bibliographies.

To get started on LaTeX, you will need to download several components onto your computer. What you need to install will be based on your computer type (i.e PC v. Mac) and the idiosyncrasies of your computer. For example, I use a PC and use the following components: MiKTeX (the actual distribution of LaTeX), WinEDT (my text editor - where I enter my content and formatting commands), and Ghostscript and Ghostview (which allows Window users to compile PDFs with pretty figures). I list some alternatives below, although I am most familiar with what I use.

Below is a more detailed instructions that you will need to get started on LaTeX.[1] I am not completely familiar with all of these options (especially for Mac users), but any troubles can probably be resolved with a simple Google search. One major advantage of LaTeX is the extensive support found on-line.

1.1 Distribution of LaTeX

- For Windows, you could either use:
  - MiKTeX or proTeXt, which is a MiKTeX-based distribution that guides you through the installation process.
  - TeXLive
- For Mac, you could use:

[1] These instructions are drawn from Dave Armstrong's LaTeX's instructions (http://www.quantoid.net/ICPSRlatex.html). I initially learned LaTeX from Dave at ICPSR and my LaTeXsession will draw heavily from his materials.

  - MacTeX, which is a TeXLive version for Mac.
  - XeTeX, which has additional font support.

- For Linux, you could use:

  - TeXLive

- In general, you can look here for advice on getting started with LaTeX.[2]

1.2 Text Editor

While you could use any text editor (including Notepad) for LaTeX, there are many options that come with built-in and easily customizable LaTeX functionality. The "Packages and programs" section of this link gives a number of free options. I have had good luck with WinEdt on Windows). Many, though certainly not all, of the free LaTeX editors provide environments specific to LaTeX. However, WinEdt, Textmate, TextWrangler/BBEdit, Emacs and others provide support for many environments (including R, Stata, Sweave, etc...). TeXStudio may be good for the beginners because it offers good syntax highlighting and some nice interactivity with citations (although I have limited experience on this, and thus can provide little trouble-shooting help).

Ultimately, all of these editors are simply user interfaces that call command-line tools (e.g., `pdflatex`, `bibtex`, etc...) by pushing a button. Often, you can configure what happens exactly when different buttons are pushed.

1.3 Ancillary Stuff

Windows users would do well to install Ghostscript and Ghostview which are programs that facilitate working with postscript documents. These can be downloaded from here:

- Ghostscript
- Ghostview

Mac users will likely already have facility to work with these files.

You'll also need a PDF viewer, like Acrobat, Foxit, Skim or Prview. Though you probably already have one of these.

[2] Another alternative is Texworks, which should work across all platforms.