Read Me First

April 3, 2016

Contents

1 TeXShop 1

2 First Steps with TeX 2

3 Second Steps with TeX 4

4 MacTeX for Experts 5

5 TeX Live Documentation 7

6 Spell Checking 7

1 TeXShop

TeX is a typesetting program, originally designed for mathematical and scientific documents, but increasingly used in other fields as well. The MacTeX distribution contains the TeX program and a large number of support files: fonts, style files, and so forth.

Most of these files remain hidden from the user, who interacts with TeX via a front end. This front end contains an editor used to enter source text, and a preview window showing the typeset output. After installation of MacTeX, your `/Applications/TeX` folder will contain the front end TeXShop. TeXShop has been available for OS X since the introduction of the operating system.

2 First Steps with TEX

If you are new to TEX, the following steps will get you started. Go to `/Applications/TeX` and find TeXShop. Drag its icon to your dock. Run the program. You will be presented with a blank window; at the top right of this window you'll find a pull down menu named "Templates". From this menu choose "LaTeX Template". The blank window will fill with some standard boilerplate required in each TEX source file. The red lines are comments which TEX ignores.

New material goes between the lines

```
\begin{document}
```

and

```
\end{document}
```

Type some sentences there now. TEX will ignore most carriage returns because it knows how to format text, so insert them randomly if you wish. Use a blank line to indicate the start of a new paragraph.

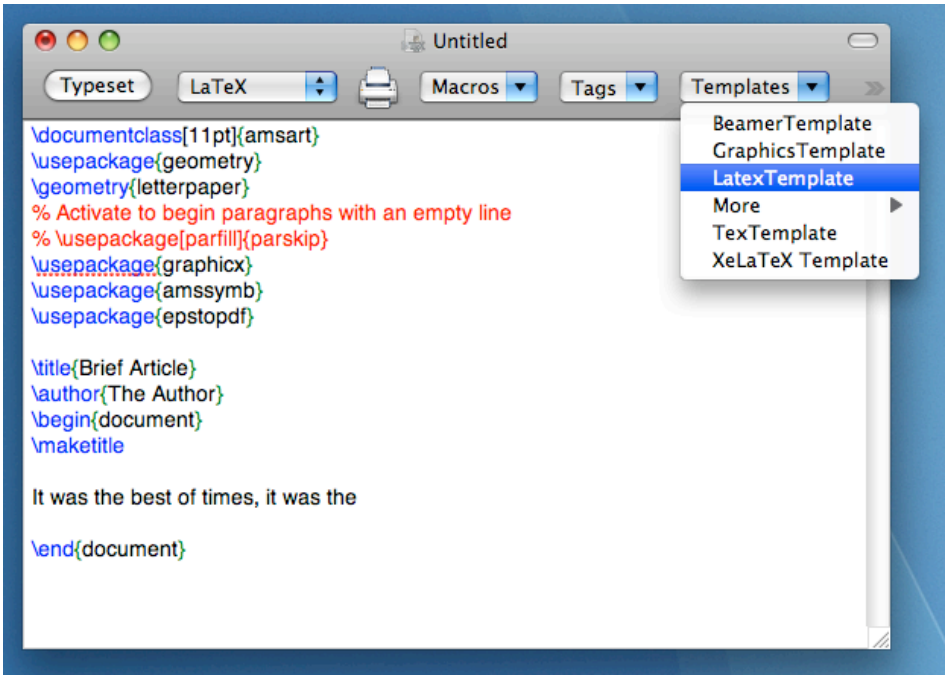

Figure 1: Edit Window

Uncomment the source line with the words "usepackage[parfill]parskip" if you prefer to separate paragraphs with an empty line instead of an indent.

When you have some material, hit the "Typeset" button at the top left of the window. A dialog will appear asking you to save the document. When TEX typesets, it creates three or four additional files, so it is not a good idea to save directly to a location with many other files. Instead, put your source in a folder within such a location. To do that, navigate to a reasonable location, say `~/Documents`, and then hit the "New Folder" button at the bottom of the dialog. Accept the default name or choose another and create the folder. Then name the document and save it. The default "Untitled" name will do.

As soon as you save, TEX will typeset the document and open a second window showing the result.

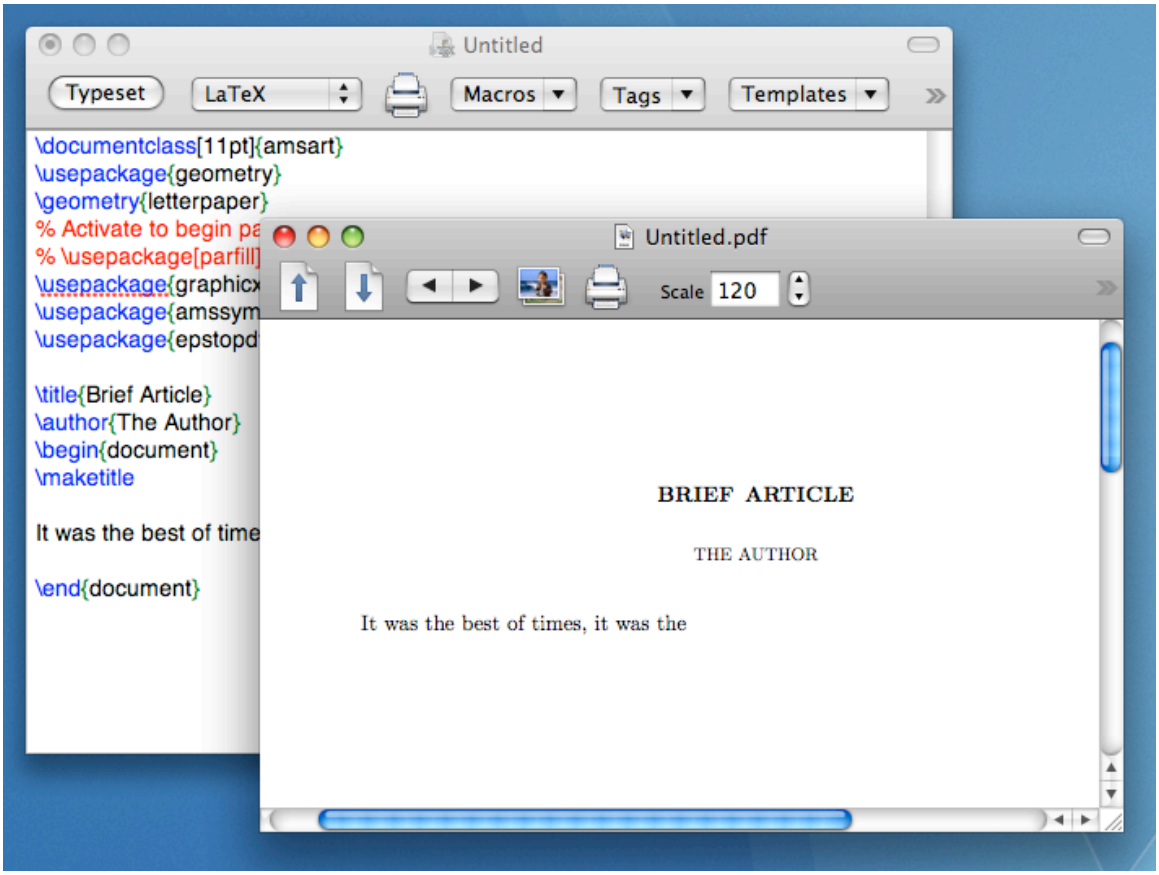

Figure 2: Typeset Window

Go back to the original window and add some additional text. Hit "Typeset" again. This time TEX immediately typesets the new material and updates the output window.

Now quit the program.

It is possible to reopen the project by double clicking on the Untitled file or by starting TeXShop and navigating to Untitled in the Open dialog, but there is a much easier way. Start TeXShop and under the File menu choose the item "Open Recent..." In the resulting list, choose "Untitled" and you will immediately return to the document.

Those are the basics. You will find further information in the TeXShop Help menu. The first short item, "First Steps With TeXShop", should tell you everything you need to know to get started. Go to the Help menu now and select the submenu "TeXShop Demos" and then the item "Getting Started". You'll be shown a movie illustrating the steps you just performed.

You may be unhappy with TeXShop's placement of the two crucial windows. This is easily fixed, as explained in the second movie "Initial Preferences". Watch that movie and follow the suggestions in it to rationalize placement of the windows.

3 Second Steps with TEX

The next crucial step is to learn TEX. George Grätzer gave permission to put the first portion of his book *More Math Into LATEX* in the TeXShop Help window, so begin by reading that document.

A vast amount of material is available over the internet. Below are links to good starting points. These links work if you are reading this pdf document in Apple's Preview or in Safari. They also work in the latest Acrobat Reader, but Acrobat Reader first requires you to acknowledge security concerns when reading documents over the internet.

It is a good idea to read some of the material on the MacTEX web site: `http://www.tug.org/mactex`. The link "References" at the top of this page leads to a particularly useful page which has a lot of information about learning TEX. In particular, several useful online tutorials are available. If you are serious about TEX, you'll probably want to buy some books. Visit `http://tug.org/books/` for an excellent list of classics, available at a discount with free shipping.

For specialized versions of TEX and LATEX see:

- Information on XeTeX and XeLaTeX:
  http://scripts.sil.org/xetex
- Information on ConTeXt:
  http://wiki.contextgarden.net/Main_Page and
  http://wiki.contextgarden.net/ConTeXt_Minimals

MacTeX is brought you by the TeX user groups across the world, including the one for English speakers:

- TeX Users Group Site:
  http://www.tug.org

Searching this site will reveal a vast reservoir of information, including

- A Short History of TeX:
  http://www.tug.org/whatis.html
- A free online journal focused on practical use:
  http://www.tug.org/pracjourn/
- Archived issues of the main journal about TeX:
  http://www.tug.org/TUGboat/
- Information on joining TUG, to get the latest issues and much more:
  http://www.tug.org/join.html.
  See also
  http://www.tug.org/usergroups.html
  for a list of other user groups; please join the one best for you!
- The Comprehensive TeX Archive Network (CTAN):
  http://www.ctan.org/

TeXShop is just one of the many available editors and previewers for TeX on OS X. After you are comfortable with TeX, you'll want to investigate other possibilities. A good starting point is the Gray-Slater site listed above.

4 MacTeX for Experts

MacTeX installs TeX Live 2016 in `/usr/local/texlive/2016`. The distribution it installs is exactly the same as the distribution that would be obtained by using TeX Live's standard install script. TeX Live runs on almost all architectures: OS X, Windows, GNU/Linux,

and other Unix systems. The distribution is the same on all of these platforms; nothing has been added or removed to customize it for OS X.

The MacTEX installer performs extra tasks which aren't done when you install with TEX Live's standard script. MacTEX extends PATH and MANPATH so TEX binaries and man pages for the distribution are available within Unix shells. .

If you were using an earlier TeX distribution like TEX Live 2015 before you installed MacTEX-2016, that distribution remains unchanged on your machine after installing the new distribution. You can switch back and forth between TEX Live 2016 and your old distribution by using the program TeX Live Utility in /Applications/TeX. Run this program and select the menu item "Reconfigure Distributions..." in the Configure menu. A panel will appear listing all TeX distributions on your machine. Click the radio button attached to one of these items to activate that distribution.

When you click that button, PATH and MANPATH and all front ends and utilities are automatically reconfigured. A consequence of the mechanism used to make the command work is that all of the TEX front ends and utilities provided by MacTeX are automatically configured for TEX; this applies to most current programs available over the web, not just those we supply with MacTEX.

On other Unix machines it is common to set environment variables like TEXINPUTS. While TEX Live recognizes these variables, it is usually not necessary or desirable to set them.

MacTEX tries to guess your paper size at installation time. If it makes a mistake, you can set the paper size by running the program TeX Live Utility in /Applications/TeX, and selecting the "Change Paper Size..." item in the Action menu.

Use TeX Live Utility to keep your distribution up to date. When the program starts, it lists packages in TeX for which updates are available. Select the "Update All Packages" item in the Action menu to update these packages over the net.

For details about these features, read "What Is Installed" in `/Applications/TeX`.

5 TEX Live Documentation

TEX Live comes with extensive documentation. To browse through the full set, it is useful to read the Index to the documentation. The first two links below lead to this index. Cuariously, the links work if you are reading this paper in Safari or Acrobat Reader, but not if you are reading with Apple's Preview.

First go to `file:///usr/local/texlive/2016/index.html`. This leads to several deceptively simple README links in various languages. If you follow links within these files, you will soon reach extensive amounts of information, including some book length introductions to TEX. An important link is `file:///usr/local/texlive/2016/doc.html` which has links pointing to all of the html and pdf package documentation, sorted by package name.

There are so many links that it is difficult to pick favorites; here are a few samples to show the variety of available information. The remaining links work when reading in Safari, Preview, or Adobe Reader:

- A 139 page book on LATEX, *The Not So Short Introduction to LATEX2e*, by Tobias Oetiker, Hubert Partl, Irene Hyna and Elisabeth Schlegl: `file:///usr/local/texlive/2016/texmf-dist/doc/latex/lshort-english/lshort.pdf`
- *The TEX Live Guide* for 2016, edited by Karl Berry: `file:///usr/local/texlive/2016/texmf-dist/doc/texlive/texlive-en/texlive-en.pdf`
- The documentation for Beamer, a LATEX class to create presentations for a projector: `file://usr/local/texlive/2016/texmf-dist/doc/latex/beamer/doc/beameruserguide.pdf`

6 Spell Checking

Apple's spell checker doesn't understand TEX, so it marks most TEX control words as misspelled. There are two solutions to this problem. The first is to spell check documents after they are written, using the stand alone *Excalibur* in `/Applications/TeX`. The second is to download Anton Leuski's *cocoAspell*, a plugin for Apple's system which does recognize TEX control words. To download and install the free *cocoAspell*, go to `http://people.ict.usc.edu/~leuski/cocoaspell/`

There are problems installing cocoAspell on Yosemite and ElCapitan and perhaps on later

Apple systems. But workarounds for these problems have been found. See http://tug.org/mactex/InstallingCocoAspell.pdf.