Brief Article

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1   Introduction

This is an example which can be used to experiment with TexShop before you install teTeX. Since the typeset pdf file is included, all of the TexShop windows appear. You cannot change the source and typeset again until you have installed teTeX.

2   Size and Style Changes

In this section we will experiment with changing font sizes and styles.
is a sentence in italics. Here is a sentence in larger type. Here is a sentence with much larger type. Now we are back to standard size.
Here is a sentence in bold face.

3   More Pages

We'd like to show how the program deals with additional pages. So we'll retype an old TexShop Help File in TeX.

4 TexShop Help File

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5 Preliminaries:

TexShop is a Mac OS X program which can typeset TeX and LaTeX files and preview the output on the screen. The program typesets using pdftex or pdflatex instead of tex or latex; these programs output pdf files rather than dvi files. Since pdf is the native graphics format of Mac OS X, it is easy to display the output on the screen. Pdftex and pdflatex were written by Han The Thanh, Petr Sojka, and Jiri Zlatuska.

The pdf files created by TexShop are standard pdf files which can be given to other people and displayed on a variety of computer systems.

TexShop does not include TeX. Instead it uses the standard TeX distribution teTeX, a wonderful collection of the entire suite of TeX programs, files, and utilities created by Thomas Esser. This collection (the standard version of TeX on Linux systems) has been compiled for Mac OS X. Instructions on obtaining it are given below.

TexShop is written in Cocoa and relies on the NSPDFImageRep class to display output files. This class is not complete as of Developer Release 4; the following ingredients are missing:

1. the class cannot interpret embedded fonts, so it substitutes standard system fonts in displays.

2. the class cannot interpret embedded graphic objects

Thus TexShop is not immediately useful. But because of the wonders of object oriented programming, the current version will work correctly once Apple completes the NSPDFImageRep class.

6   Getting and Installing teTex:

The full teTeX distribution compiled for Mac OS X is available at the teTeX web site at www.tug.org.

Several tar files must be obtained and installed, as explained at the site.

Later versions of the distribution can be obtained and installed at any time; TexShop does not install any configuration files in the teTeX tree.

There is another way to obtain the distribution which is somewhat easier, and I'll give complete instructions for that method. Using a web server, connect to next-ftp.peak.org.

The version of teTeX on this site was compiled for Mac OS X Server, but works equally well on the latest Mac OS X. On the left panel of the screen, push "NeXT Archive." At the bottom of the resulting page, push "Mac OSX Server". On the resulting page, select "All." Scroll down on the resulting page and download the file "teTeX-full-1.0.2a-P-b.tgz." This is a 38.4 MB file, which will arrive with the name "teTeX-full-1.0.2a-P-b.tgz.tar.gz".

In a terminal window, type the command

    gzip -d teTeX-full-1.0.2a-P-b.tgz.tar.gz

and then the command

    gnutar -xf teTeX-full-1.0.2a-P-b.tgz.tar

These will produce a folder named teTeX-full.pkg (together with a file "teTeX-full-1.0.2a-P-b.tgz.tar", which can be thrown away).

Inside the folder teTeX-full.pkg, there are five files, but only "teTeX-full.pax.gz" matters; it contains a compressed version of teTeX. Log out and log in as root. Create the directory Library inside Local if it does not exist. Move the file "teTeX-full.pax.gz" to this directory. In a terminal window, change to this directory and type the command

    gzip -d teTeX-full.pax.gz

and then the command

    pax -r -f teTeX-full.pax

This will create a new folder named "teTeX" inside the folder "Library". The file "teTeX-full.pax" can be thrown away. The folder teTeX contains the complete teTeX distribution.

While still logged in as root, create symbolic links to the binary files for teTeX in the following manner. Create the directory "bin" inside "local" inside "usr" if it does not exist. In a terminal window, type and execute a command to create the symbolic links.

You can immediately use the standard command line programs in TeX: tex, latex, dvips, etc.

7   Typesetting Documents:

To use TexShop, type your TeX or LaTeX input in the editing window it provides. Then push the "TeX" or "Latex" button at the top of the window. The input will be saved and pdftex or pdflatex will run. A second window will open displaying the messages from tex. If there are errors, pdftex will halt; type "return" to skip the errors one by one, or one of the standard tex inputs to quit, run continuously, etc. After the document has been typeset, a new window will appear showing the resulting pdf file.

If you notice an error, you can immediately fix it in the editing window and push the "TeX" or "Latex" button again without halting the first invocation of pdftex. The program will kill that invocation and run another.

When you fix errors and typeset again, the viewer will remember the page you were previously viewing.

TexShop can show handle multiple documents. If you choose "New" or "Open," your original document will remain and additional windows for the new document will open. If you open a tex file in a folder which contains a pdf file with the same name, this pdf will also appear.

You can start TexShop by double clicking on a document with extension ".tex". The program will open that input document and (if it exists) the associated pdf document.

You can close the pdf window at any time. It will reappear when the document is typeset again. If you close the input window then both the input and output windows will close (windows from other tex documents will remain open). Therefore, if an input source window is cluttering the screen, hide it instead of closing it.

Warning: pdftex and pdflatex are unix programs which do not like spaces in filenames. Source files created with TexShop should be given names without spaces. If these source files are contained in subdirectories of your home directory, the names of these subdirectories also should have no spaces. TexShop itself has no problem with spaces in filenames.

8   Including Graphics:

It is common to use eps (encapsulated postscript) graphic files in TeX documents because such files print well at any size. The native graphics format of Mac OS X is pdf (postscript display format); these files also print well at any size. Consequently, graphics for TexShop documents should be created in pdf format. It is likely that most Mac graphics programs will be modified to output pdf over the next few months.

The public domain package Ghostscript runs on Mac OS X and contains commands which convert eps files to pdf format. Utilities are beginning to appear which make this conversion process simple. Please consult the standard archives.

The authors of pdflatex have made it easy to include pdf graphic files in a Latex document typeset with pedlatex, even if the document will later be typeset by standard latex and converted to a dvi file for distribution to other people. Use the graphic commands shown in the LaTeX template provided with the program.

When you wish to include a graphic file, say "f1.pdf", use the command provided by the Graphic template provided with the program. This command will cause tex to input the graphic file "f1.pdf" when the text is typeset with pdflatex, but input the file "f1.eps" when the text is typeset with latex.

9   Modifying the Templates Menu:

When TexShop runs for the first time, it creates a folder "Templates" inside the TexShop preferences folder. and places the files Graphics.tex, TexTemplate.tex, and LatexTemplate.tex in this folder. The names of these files are shown under the Templates pull down menu at the top of the input window. Choosing one of these items inserts the contents of the template file at the current cursor position in the source.

The three template files are standard tex files which can be opened and edited by TexShop. Additional tex files can be inserted into the Templates folder; they will also appear under the Templates pull down menu provided their names end with the extension ".tex". The original template files can be removed if desired.

To restore the original template files after they have been edited, delete the Templates folder and run TexShop again. It will recreate the folder and restore its original contents.

10   Setting a Project Root File:

It is common to split large input files into several smaller files controlled by a root file.

TexShop can be told to typeset a root file using the menu command "Set Project Root..." This menu command presents a panel with a text box where the name of the root file can be entered.

If the root file is in the same folder as the input file, it is enough to give its name, including the ".tex" extension. For instance, if the root file is named Main, you can enter Main.tex in the dialog window.

If the root file is in a different directory, its name can be given relative to the location of the input file. In the above example, the various chapters are contained in subfolders within the folder containing the root file. In that case, you could enter ../Main.tex in the dialog window, showing the location of the root file relative to the chapter input file.

Finally, the name of the root can be given with an absolute name.

If the entire TeX source is contained in a single file, it is not necessary to set the root project name.

TexShop remembers the name of the root file by writing this information to a file with the same name as the input file and the extension ".texshop". For instance, if the input for chapter two is in two.tex, TexShop writes the name of the root in two.texshop in the same directory as two.tex. If the file two.texshop is later thrown away, TexShop will revert to typesetting two.tex rather than Main.tex.

11 Setting Preferences:

Several items can be changed using the Preference menu: the default font for the input window, the default magnification for the output window, and the default position of these windows when they first appear. To set these items, readjust them as desired and then make the choices permanent with the preferences dialog.

The preference dialog can also be used to change the commands executed when the "TeX" and "Latex" buttons are pushed. This is useful some users prefer a version of TeX called etex, and there are pdf versions of etex called pdfetex and pdfelatex.

Obviously the substituted command must still produce a pdf output file. Write the full path to the new programs in the preference dialog.

Sending Bug Reports:

To file bug reports and suggest improvements, contact Richard Koch at the Mathematics Department of the University of Oregon at Eugene, Oregon.

12   License:

TexShop is provided under the GNU General Public License (GPL). This means that you are free to use, copy, and modify the program. If you give your modifications to others, the modifications must also be provided under the GPL.

The source code is available on my web site at darkwing.uoregon.edu under the name koch.