

If installed from `.dmg`, once everything is extracted, copy the entire folder SageMath to the Applications folder.
Then `cd /Applications/SageMath` in the terminal and type `./sage` to run it
Replace the path `/SageMath.app/Contents/Resources/sage` by SageMath in this guide.

USING SAGE WITH LATEXMK

HERBERT SCHULZ

Commented by *Yuanning Lu*

1. SAGE AND LATEXMK

This document is independent of the other material in this folder, and explains how to use Sage with TeX if you want to use latexmk.

2. SETUP

For mac users, install from `app.dmg` is easier, which will create a macOS application. See notes in header if installed from `.dmg`

Download and install the SageMath application in /Applications. It will install as SageMath-x.x.app where x.x is a version number. Remove the -x.x from the application name to get Sagemath.app. Make a symbolic link of the `sage` executable in /usr/local/bin:

```
cd /usr/local/bin
```

```
sudo ln -s /Applications/SageMath.app/Contents/Resources/sage/sage .
```

Run the command `SAGE_ROOT` in your Sage desktop, and replace the path in the following box by the one returns from your Sage desktop. -YL

and then make sure sage is expanded by running

```
cd
```

```
sage --version
```

Note: this takes you back to the top level directory. -YL

Note: this shows you the version number of your Sage. -YL

which may generate quite a few lines of output and finally end with a line giving the version number of the `sage` you are running.

Next create a `sagetex` folder in /usr/local/texlive/texmf-local/tex/latex and make a symbolic link of `sagetex.sty` in that folder:

```
cd /usr/local/texlive/texmf-local/tex/latex
```

```
sudo mkdir sagetex
```

```
cd sagetex
```

```
sudo ln -s \
```

```
/Applications/SageMath.app/Contents/Resources/sage/local/share/texmf/tex/latex/sagetex.sty .
```

```
sudo mktexlsr
```

Note: enter the sub folder. -YL

Note: create a new folder named sagetex. -YL

Note: enter the new folder sagetex. -YL

Note: create a symbolic link (a shortcut). -YL

Note: create ls-R databases. -YL

to allow TeX to use the `sagetex` package.

Note: I also moved the `sage.engine` file out of the Inactive folder. This is optional.

```
cd ~/Library/TeXShop/Engines/Inactive
```

Note: enter the folder where `sage.engine` is located.

```
mv Sage/sage.engine ../
```

Note: move `sage.engine` two levels up to the folder Engines.

```
cp -R Sage ~/Desktop
```

Note: copy the Sage folder to desktop to read tutorials in this folder.

Reference: <https://tex.stackexchange.com/questions/1229473/having-trouble-getting-sagetex-working>

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3. USING SAGE AND LATEXMK

Inside "TeXShop/Engines/Inactive/Sage/Sage and latexmk" there is a file named "platexmkrc". Create a folder for your new document and add a copy of platexmkrc to this folder. Create the document as usual in the folder, making sure that the top line is

```
% !TEX TS-program = pdflatexmk
```

Then typesetting will use pdflatexmk and the resource file platexmkrc, and cooperate nicely with Sage.

Note: If LaTeX complains that the sagemath.sty file can not be found, here is something else you need to do: –YL

- The third (and best) way to make TeX aware of sagemath.sty is to copy that file into a convenient place in your home directory. In most TeX distributions, the texmf directory in your home directory is automatically searched for packages. To find out exactly what this directory is, do the following on the command line:

```
$ kpsewhich -var-value=TEXMFHOME
```

which will print out a directory, such as /home/drake/texmf or /Users/drake/Library/texmf. Copy the tex/ directory from SAGE_ROOT/local/share/texmf/ into your home texmf directory with a command like

```
$ cp -R SAGE_ROOT/local/share/texmf/tex TEXMFHOME
```

Note: replace it by the path returned from the previous command line.

where SAGE_ROOT is, as usual, replaced with the location of your Sage installation and TEXMFHOME is the result of the kpsewhich command above.

If you upgrade Sage and discover that SageTeX no longer works, you can simply repeat these steps and the Sage and TeX parts of SageTeX will again be synchronized.

Reminder: type SAGE_ROOT in your Sage desktop copy to find your SAGE_ROOT path

Reference: <http://doc.sagemath.org/html/en/tutorial/sagetex.html#sec-sagetex-install>