Chapter 15

Installing matplotlib

There are many different ways to install matplotlib to your system. In this section, I’ll recommend one method for each operating system. If you’d like to see the kinds of visualizations you can make with matplotlib, see the official matplotlib [sample gallery](http://matplotlib.org/gallery.html). When you click a visualization in the gallery, you can see the code used to generate the plot.

Checking if matplotlib is already installed

First, check if matplotlib is already installed on your system:

$ python

>>> import matplotlib

>>>

If you don’t see an error message, then matplotlib is already installed on your system and you should be able to get started right away on this chapter’s projects. If you get an error message, read the appropriate section below for help installing matplotlib on your operating system.

Simple installation with pip

The matplotlib developers have been working hard to simplify the installation process, and sometimes you can install it using just pip. Try this and see if works on your system:

$ pip install --user matplotlib

If you need help using pip, see the instructions in Chapter 12. If this doesn’t work, try leaving off the --user flag.

If the installation seems to run without errors, try importing matplotlib:

$ python

>>> import matplotlib

>>>

If the import runs successfully, you’re finished and you can start using matplotlib. If the import statement fails, look at the appropriate section below for your operating system.

Installing matplotlib on Linux

If you’re using the version of Python that came with your system, you can use your system’s package manager to install matplotlib in one line. For Python 3, this is:

$ sudo apt-get install python3-matplotlib

If you’re using Python 2.7, this is:

$ sudo apt-get install python-matplotlib

If you installed a newer version of Python, you’ll have to install several libraries that matplotlib depends on:

$ sudo apt-get install python3.5-dev python3.5-tk tk-dev

$ sudo apt-get install libfreetype6-dev g++

Then use pip to install matplotlib:

$ pip install --user matplotlib

If you need help using pip, see the instructions in Chapter 12.

Installing matplotlib on OS X

Aple includes matplotlib with its standard Python installation, so make sure you check if it’s already installed before installing it yourself.

If matplotlib is not already installed and you used Homebrew to install Python, install it like this:

$ pip install --user matplotlib

If you need help using pip, see the instructions in Chapter 12. If you have trouble installing matplotlib using pip, try leaving off the --user flag.

Installing matplotlib on Windows

To install matplotlib on Windows you’ll first need to install Visual Studio, which will help your system install the packages that matplotlib depends on. Go to <https://dev.windows.com/>, click[**Downloads**](https://dev.windows.com/downloads), and look for *Visual Studio Community*. This is a free set of developer tools for Windows. Download and run the installer.

Next you’ll need an installer for matplotlib. Go to <https://pypi.python.org/pypi/matplotlib/> and look for a wheel file (a file ending in *.whl*) that matches the version of Python you’re using. For example, if you’re using a 32-bit version of Python 3.5, you’ll need to download *matplotlib-1.4.3-cp35-none-win32.whl*.

If you don’t see a file matching your installed version of Python, look at what’s available at<http://www.lfd.uci.edu/~gohlke/pythonlibs/#matplotlib>. This site tends to release installers a little earlier than the official matplotlib site.

Copy the *.whl* file to your project folder, open a command window, and navigate to the project folder. Then use pip to install matplotlib:

> cd python\_work

python\_work> python -m pip install --user matplotlib-1.4.3-cp35-none-win32.whl

If you need help using pip, see the [instructions](https://ehmatthes.github.io/pcc/chapter_12/installing_pip.html) in Chapter 12.

Installing Pygal

Pygal has been updated recently, which is a good thing; you’re learning a library that’s being steadily improved. This also means you have two choices about how to install Pygal. You can install version 1.7 which supports the code in the book exactly as it’s written, or you can install the most recent version of Pygal and modify some of the code in the book. If you install the most recent version there are some slight changes you’ll need to make for the code in chapter 16.

Running Pygal code exactly as it appears in the book

Pygal 1.7 allows the code to run exactly as it appears in the book. To do this, modify the command for installing pygal so pip will install version 1.7 (page 340):

$ pip install --user pygal==1.7

On Windows, this would be:

> python -m pip install --user pygal==1.7

If you’ve already installed Pygal you can see which version was installed by running the commandpip freeze:

$ pip freeze

pygal==2.2.3

If you installed Pygal 2.0 or later and want to install 1.7 instead, uninstall Pygal first:

$ pip uninstall pygal

$ pip install --user pygal==1.7

Using the latest version of Pygal

The latest version of Pygal is version 2.2.3. This is the version that will be installed if you don’t specify a version for pip to install:

$ pip install --user pygal

or

$ python -m pip install --user pygal

Updates

Pygal has been updated to version 2; make sure you’ve read the notes about installing Pygal above.

On the latest version of Pygal, the code from Chapter 15 runs as it’s written in the book. In Pygal versions 2.0-2.1.1, there was a change to a default setting that caused tooltips not to appear. That change has been reverted, so the code in the book is still correct. If you’re using one of these versions you can upgrade your installation of Pygal:

$ pip install --upgrade pygal

This should upgrade your installation to the latest version of Pygal, and your code should work as it’s written.