

# Programming Bootcamp 2015

## Getting started

Sarah Middleton

Last Updated: May 30, 2015

Welcome to Programming Bootcamp! Before we start on June 2nd, you will need to install Python v.2.X and a **plain text** editor (not Word). This should be pretty straightforward, but I've included some instructions below to try and minimize problems. If you encounter a problem not addressed here, just post a question on our Piazza forum!

## Opening a command prompt/terminal

For some parts of this tutorial, you might need to use the command line. Here's how to open a terminal window, if you've never done it before:

**Windows:** Go to Start > All programs > Accessories > Command Prompt.

**OS X:** Go to Applications > Utilities > Terminal.

**Linux:** I'm going to assume you know what you're doing. :)

You might want to make a shortcut to your terminal for later, as you'll be using it a lot.

## Installing Python

We will be using Python 2.7 for this course. If you have an earlier 2.X version installed (e.g. 2.6) this should be ok, though if you have something earlier than 2.4 you should consider installing a newer version.

### Check your version

You may already have Python installed (many Macs come with it). You can check whether you have it and what version it is by doing the following:

1. Open a command line window

2. Type `python` (this opens the Python interpreter... we'll talk about it more later.)
3. Your line prompt should change to `>>>` (If instead you get an error message, you probably do not have Python installed.)
4. Above the `>>>`, you should see some text that says Python, followed by a number. The number is your version.
5. Type `quit()` to exit the interpreter.

## Installing Python on Windows

1. Go to <http://www.python.org/download>
2. Click the button that says “Download Python 2.7.10” to download. *Make sure to choose 2.7, not 3.3!*
3. Click on the file you downloaded and follow the instructions. Choose the defaults for everything. Python is now installed!
4. Open a command line and type `python`. You should get an error message. The reason for this is that your computer does not yet know where to find this strange new “python” command. To make this command work, we need to add your Python installation folder to something called the `PATH` variable, which is just a list of locations where your computer searches for commands.
5. To add python to your `PATH`:
  - a. Go to Computer > System Properties (at top) > Advanced System Settings
  - b. In the ‘advanced’ tab, click Environment Variables (at bottom)
  - c. In the “Systems variables” list (the second list, at the bottom), scroll down until you see a variable called “Path”. Highlight it and click “Edit”.
  - d. In the field labeled “Variable value:”, you should see a whole bunch of stuff. Move your cursor to the end of this list of stuff and add the following text to the end: `;C:\python27` (yes, including the semicolon).  
**Note: be careful not to delete the other stuff already in this field. Add this text to the end of what’s already there. If you accidentally delete something, just click “cancel” and it should be fine.**
  - e. Hit OK on all the windows, and you’re done.
6. Open a command window (close and re-open if you already had one up). Type `python` again. This time you should see some text that says Python 2.7.10 and a `>>>` line prompt. Type `quit()` to go back to the regular command line.

## Installing on OS X

You're in luck, most Macs come with Python already installed these days. Follow the directions in the "Check your version" section to make sure you have 2.X. One note: the version of Python that comes with OS X is apparently slightly different than regular Python. It should be fine for our purposes, but just make sure you don't uninstall or overwrite this special Python with regular Python, because some OS X programs rely on it.

## Installing a text editor

Code is usually written using a plain-text editor. There are many editors to choose from, but some make coding more pleasant than others. You can not use Word to write code, as Word adds all kinds of invisible characters to your text that make it unreadable to Python. Instead, I recommend one of the following:

**Windows:** Notepad++ (<http://notepad-plus-plus.org>). This is what I use. It's free.

**OS X:** TextWrangler (<http://www.barebones.com/products/textwrangler>). There are not many good free options for Macs, but I found this one to be good enough. If you're willing to pay a little money, there are some other options (google for recommendations).

You're welcome to explore other text editors if you wish. There are several that are specifically made for writing code (e.g. Eclipse) and may offer some nice extra features. There are also command line-based editors such as `vim` and `emacs` that many programmers use. These tools have a bit of a learning curve, and are not what I use personally, so I won't go over them during the course. Check them out if you're curious, though – there are tons of tutorials online.