Informatics 510
Spring 2019, Lab 1
Due: At the *beginning of Lab 2*, on Thursday, January 17

Part 1
Install miniconda *and* Jupyter (which includes the iPython terminal and Jupyter notebook, both of which are handy for writing/debugging Python programs).

The instructions for both of these things are on the following sources:
Windows:
https://github.com/SmithsonianWorkshops/CodingInPython/blob/master/Week%200/Installing%20miniconda%20on%20Windows.md

macOS:
https://github.com/SmithsonianWorkshops/CodingInPython/blob/master/Week%200/Installing%20miniconda%20on%20Mac.md

Linux:
https://conda.io/miniconda.html

NOTE: When Installing Miniconda, when it gives you the option of adding it to your PATH, you must CHECK this option in order for your installation to work properly

For the rest of the semester, when given shell commands to type, note that when you see a "$" that is to indicate the command prompt from either the Mac/Linux terminal or Windows "command prompt" shell. You do not type the dollar sign, only the commands after it ☺.

1. **Once you get miniconda installed, let's check to make sure it's installed correctly. Type the following (note the *two* dashes):**

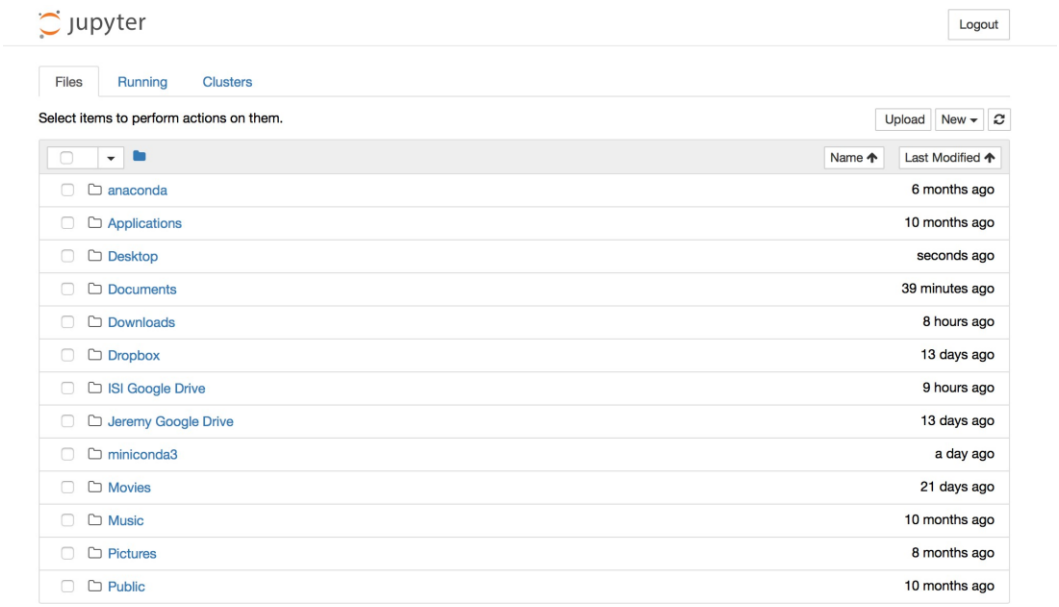
$ python --version

You should get an output that's like this:
Python 3.6.1 :: Continuum Analytics, Inc.

2. **Next, let's try to fire up the Jupyter notebook:**

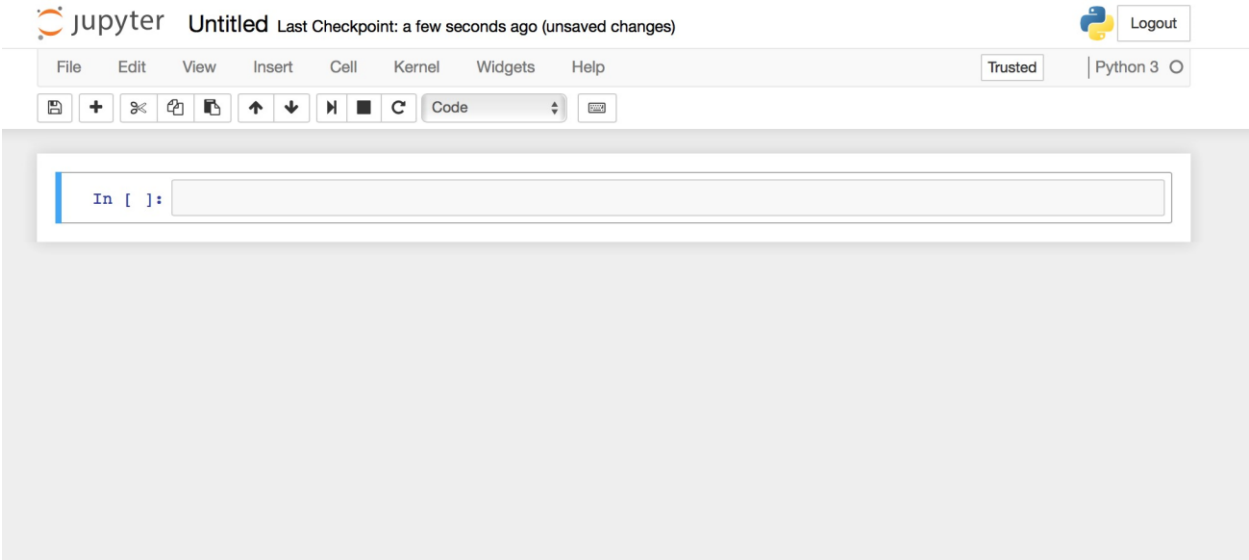
$ jupyter notebook

You should see a bunch of debugging logs, and it should fire up a browser that looks somewhat like this:



We're going to open a new notebook. Look for the "New" drop down in the upper right corner.

Select "Python 3". This should open a notebook in a new window:



To use the notebook, just type a Python statement in a cell and then press shift+enter to execute it. You should see the output (if any) right below the box where you typed in your statement. For the following, you should play around with a few different inputs, but make sure a-f from Problem #3 below are all in separate cells.

3. **In your notebook, explore the different types of Python. Try the following (some might return errors!):**
    a. **Declaring a variable as an int and adding it to an integer constant**
    b. **Declaring a variable as a string and adding it to an integer constant**
    c. **Declaring a variable as a string and adding it to another string**
    d. **Declaring a variable as a float and adding it to an integer**
    e. **Declaring a variable as a string, and then overwriting it (declaring it again) as an integer**
    f. **What happens when you type the following?:**

```
x = "10"
y = 10
x = x + y
```

When you're done, select the "File" and then "rename" menu on the upper left. Rename the notebook to "lab1" and save it (use the little disk icon on the upper left). You'll need this notebook for the week 2 lab.

The lab TA will check off that you've completed problems 1-3 before starting the week 2 lab.
If you have no completed this when you come to the lab, you will not receive credit for Lab 1