# Assignment 1 – Intro to Python

## Development Environments

Developing in Python offers you many options to how you can develop. Depending on what you're trying to accomplish, you can develop straight from the python shell, IDLE, using a text editor and running from the command prompt, or one of many free or pay to use IDEs. In Assignment 1, we will cover the first three.

### Python Shell

The shell is the simplest Python environment to work with and can be used to create ad-hoc scripts.

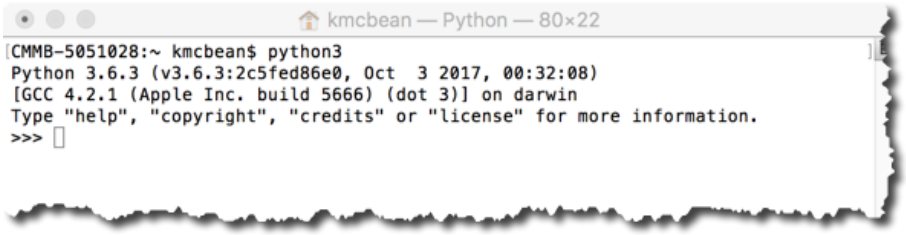
Notice: This assignment will include instructions for both MacOS and Windows, including screen captures. You will only need to complete one set of screen captures, either for the Mac or Windows, not both. If you're a Windows user, skip the Mac section and go directly to the Windows section

#### MacOS

Mac OS X 10.8 has Python 2.7.x pre-installed by Apple. For this course we will be using Python 3, so you'll first need to install the latest version of Python on your Mac.

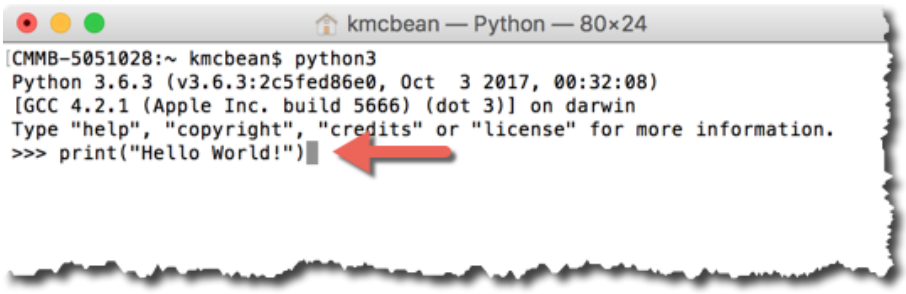
To open the Python 3 shell on a Mac:

1. Open a terminal window in applications
2. Type *python3* and hit enter



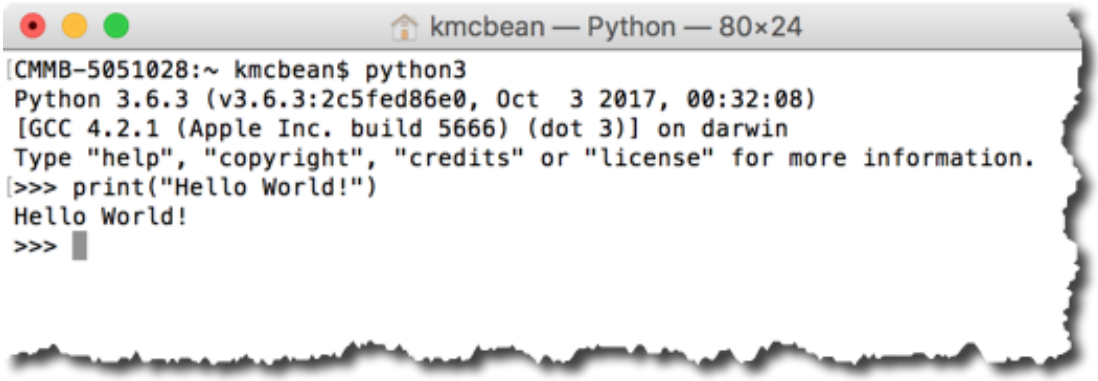

#### *Creating the "Hello World" Script*

3. From the shell, type the following: *print("Hello World!")*



4. Press Enter

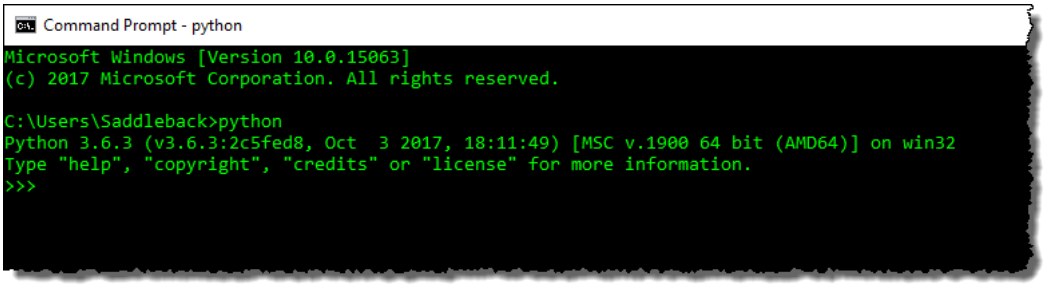
Screen Capture #1 (6 points)




## Windows

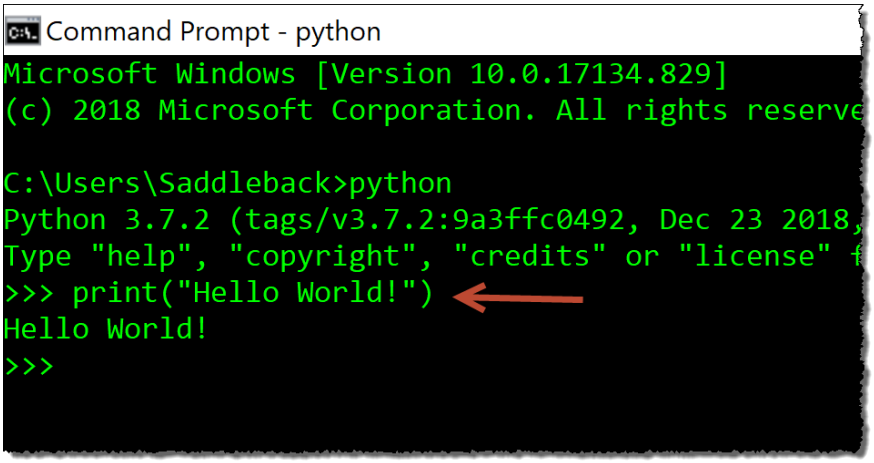
To open the python shell in Windows:

5. Click Start, Run and type *cmd* to open a Command Prompt window
6. Type in *Python*




## *Creating the "Hello World" Script*

7. From the shell, type the following: *print("Hello World!")*



8. Press Enter

   Screen Capture #1 (6 points)


## Text Editor

Using a text editor is a little more advanced than simply creating scripts in the python shell. With the text editor, you will be able to create and run individual python files.

Some popular Plain Text Editors include:

- NotePad++ (Windows) - Free
- TextWrangler (Mac) - Free
- Sublime Text (Windows/MacOS) - $80

Note: When creating python files, the files will need to be saved as **plain text** files. Non-plain text editors will use invalid python character like “smart quotes” (see image on left) where plain text file use of “dumb quotes” (see images on right).

Smart Quotes


Dumb Quotes

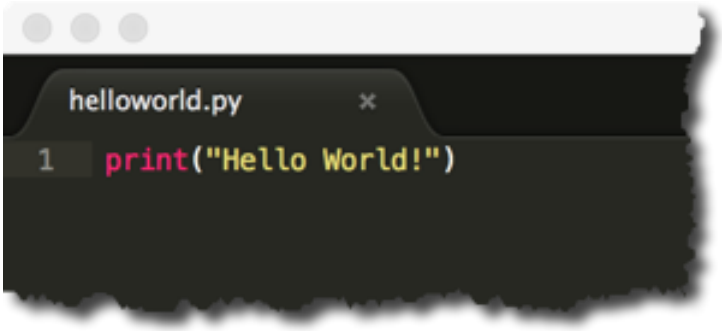

Running scripts with smart quotes will cause an *invalid character error* when running the script/file (see below).

## MacOS

### *Creating a "Hello World" Python File*

9. Open a plain text editor and create a new file
    a. I will be using Sublime Text for this example
10. Enter the following:

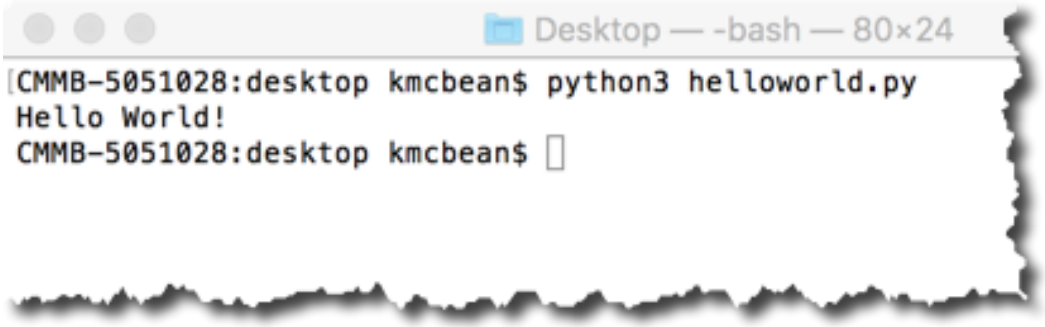

11. Save the file to the desktop and name it **helloworld.py**
    b. Notice the color formatting after saving. Many plain text editors will have python code support and while it's not needed, it's helpful




### *Run the "Hello World" Python File from the Terminal*

12. Open a Terminal Window and Navigate to the Desktop where the helloworld.py file exists
    a. Use the cd (Change Directory) command as needed
13. In the terminal, type *python3 helloworld.py*

Screen Capture #2 (7 points)

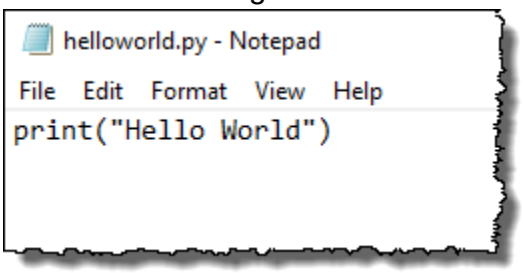


## Windows

### *Creating a "Hello World" Python File*

14. Right click on the desktop and create a new text document named **helloworld.py**

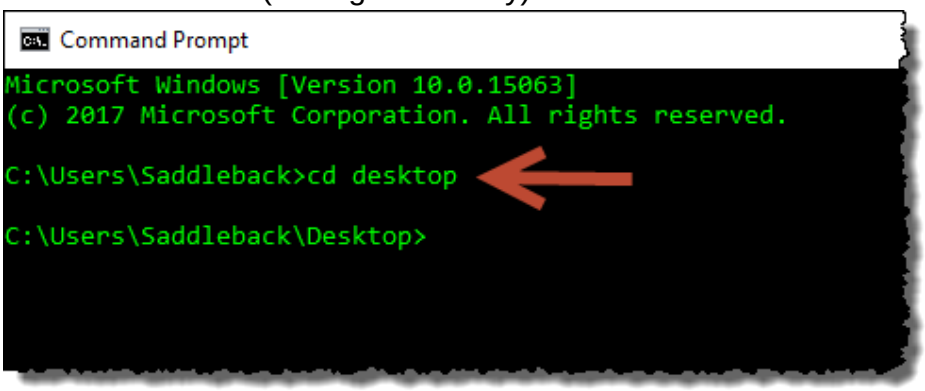

15. Right click on the file and select "Edit with Notepad"
16. Enter the following:




17. Save the file

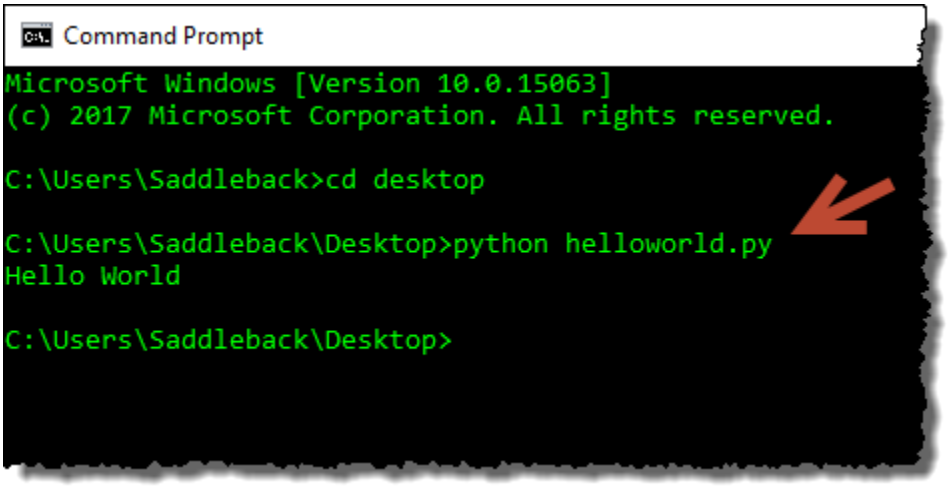
### *Run the "Hello World" Python File from the Command Prompt*

18. Open a Command Prompt
    a. Start -> Command Prompt
19. Navigate to the Desktop where the file exists
    b. Use the cd (Change Directory) command as needed



20. Enter *python helloworld.py* and click enter

Screen Capture #2 (7 points)




## IDLE

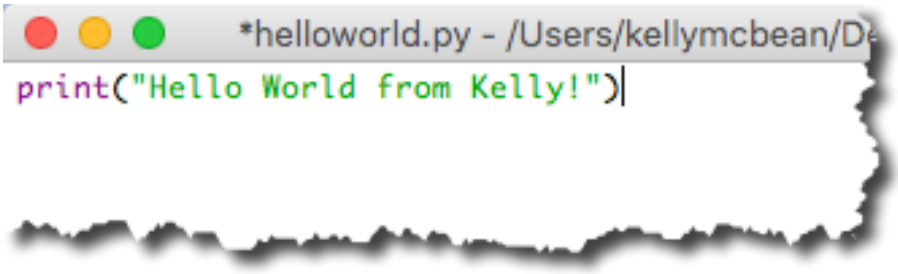
Idle is included with the Python installation packages.

### *Mac*

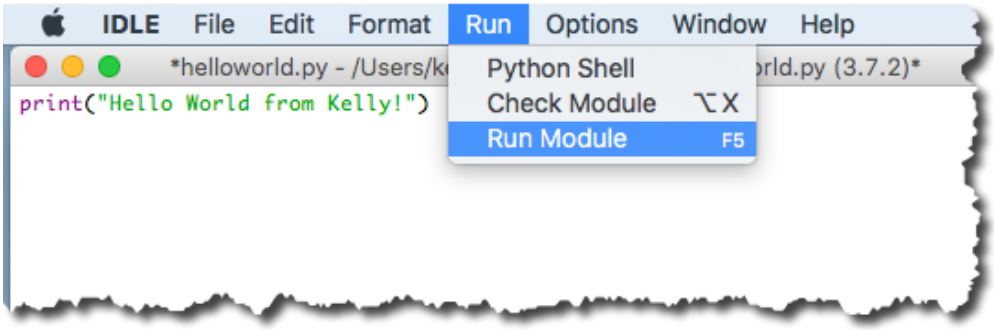
#### *Run the "Hello World" Python File from IDLE IDE*

21. From the desktop, right click on the file and select "Edit with IDLE (3.6.x)"

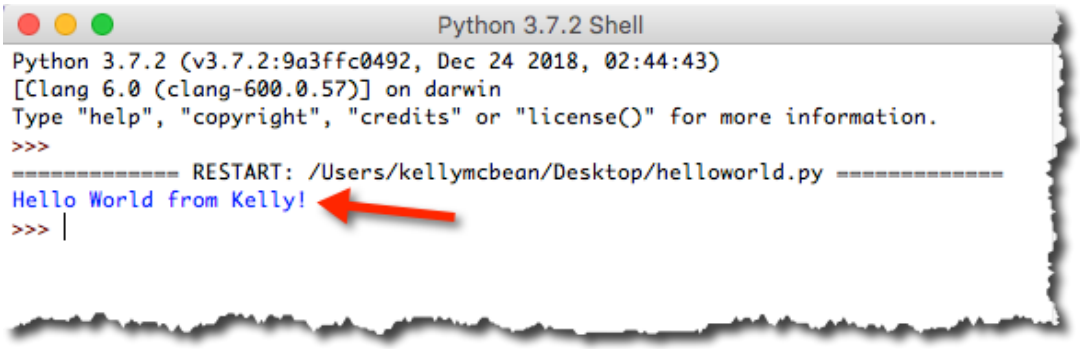

22. Modify the print("Hello World") statement to include your name



23. From the Menu bar, select Run and then Run Module
    a. or you can just press the F5 key



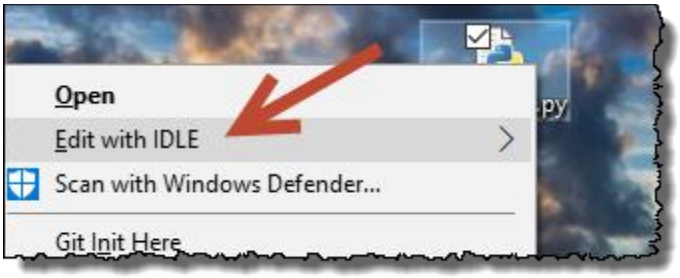

Screen Capture #3 (7 points)



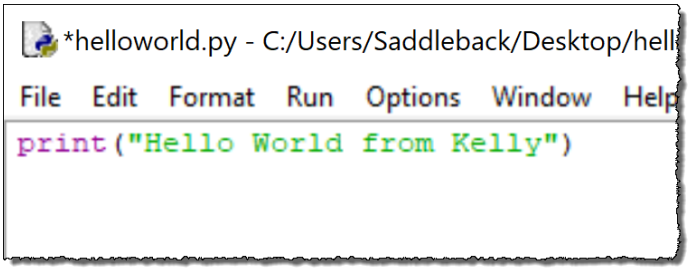

*Windows*

*Run the "Hello World" Python File from IDLE IDE (In Lab, use version 3.4)*

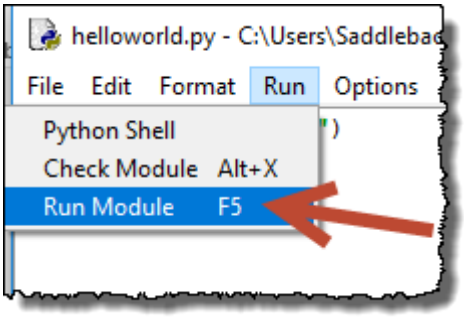
24. From the desktop, right click on the file and select "Edit with IDLE"



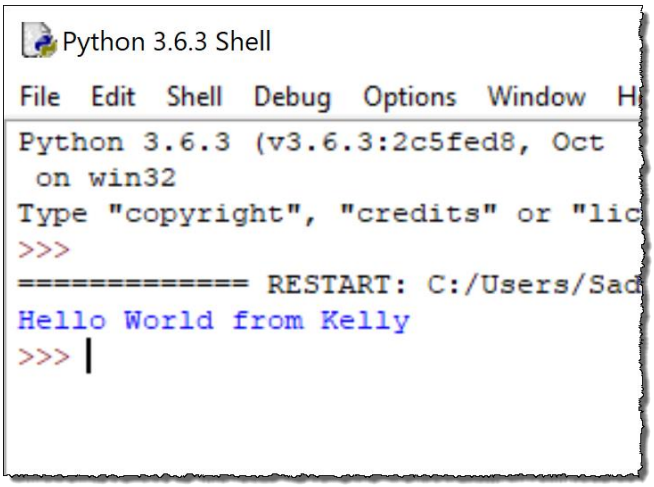

25. Modify the print("Hello World") statement to include your name



26. From the Menu bar, select Run and then Run Module
    a. or you can just press the F5 key




Screen Capture #3 (7 points)




## IDEs

For the remainder of the course, I will be using PyCharm by JetBrains. If you already have an IDE that that supports Python that you've used before, feel free to use it. If not, you can consider PyCharm or do some research to see if another IDE sounds interesting.

You can research other great options by doing a Google search for "Top Python IDEs" and/or use this link: https://wiki.python.org/moin/IntegratedDevelopmentEnvironments