# Python for Big Data: Activity Set 1

This set assumes that you have successfully installed Python.

1. Open up Python in Idle.

You need to click on the Idle icon or select it in the launchpad or whatever your OS provides.

You should see an interface like the one on the right. The layout will differ according to the operating system. In Windows, the command bar is part of the window, whereas for the Mac, they are in the upmost part of the screen.
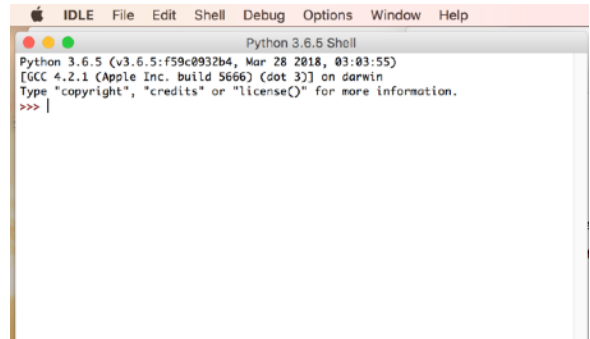
You can also obtain the interface using a command shell by typing in python, python3, or python3.6 according to your operating system. This is handy if you are using a remote system, but not what we are going to do.

2. Use Python as a calculator.

Python allows you to enter numeric expressions (made up of numbers, operators and parenthesis.) The most important numeric operations are addition (+), negation or subtraction (-), multiplication (*), division (/) and exponentiation (**). Here are a number of expressions that you should evaluate:

- $3.4 * 12$

- $3.14 + 2.71$

- 2^{10}

- $1 + 1/2 + 1/3 + 1/4 + 1/5$

- $\dfrac{5 + 1}{5^2 + 1}$

- $10/5/2$ (How are the operations ordered? Is it $(10/5)/2$ or $10/(5/2)$?)

3.   Now we write our first program.   Open a new file using the "File" drop-down menu.   This should open up a new window.
You should save the file, preferably not in the default location, which is were all the Python system files reside. I recommend creating a directory in your documents folder or on the desktop for your files. The file should be saved with the .py extension.

It is traditional to start with the "hello world" application. For this one, you just write
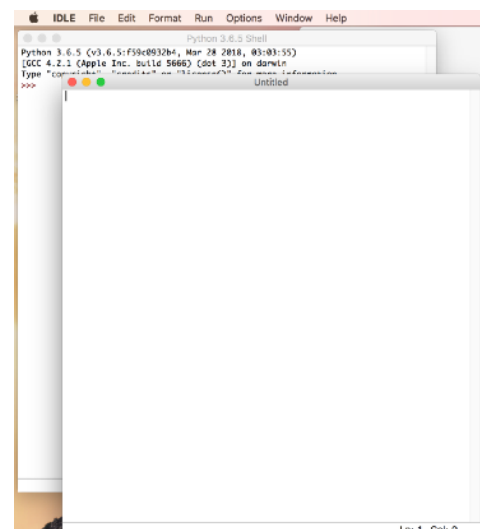
```
print("hello world")
```

There is no need to import any libraries, define main functions or main classes as in other languages. However, white spaces are important in Python, and your one and only line better start as close to the left margin as possible. Otherwise you get an "unexpected indent" message when you try to run it. After you saved the program again, you need to "run" your file, using the drop down menu "Run". You will soon get used to using the F5 short cut. In the interpretative shell (which will be created if you already closed it), you will now find the output of your program.

Congratulations, you just programmed in Python. You will need to learn a bit more before you can get a job on your skills, though.

Notice the quotation marks around the string that you print out. Also, the parenthesis show that print is a function (which was not true in Python 1 and Python 2). You can now create a tiny bit of ASCII art.

```
                                                  o
• Create a stick-man:                            /|\
                                                 / \
```

        You will need three print statements, one for each line.

• Create a cat's face. You might need to squirm your eyes a bit in order to see it.

```
  (`,---.')
   (w,_,w)
 -=>_Y_<=-
   |   |
```