Final Project Assignment (8% of final project grade)

(Due Sunday, 2/23 at 11:59pm)

1. Create a Python script that can be run from the shell that incorporates, enhances, or updates the functions that you wrote last week in the previous final project assignment that you completed.
2. A Python script is one that ends in `.py`. It can be written in a text editor, such as `Atom` which you have installed on your virtual machine. The way that a script runs when it is called that it will run all the way through, top-to-bottom, and then stop when it reaches the end of the script. Anything that you call to be printed will print out to the console in the Terminal.
    - To call a Python script from the Terminal, perform the following command:
    - `$ python NameOfScript.py`
3. To receive full credit for this assignment, your code and functions must be appropriately commented and documented.
4. Make use of your functions that you previously wrote and include a test of your function with some data, for example.
5. You must try and make your functions robust using the `assert` statement. Read about the `assert` statement here to learn more about how and why to use it:
    - https://www.programiz.com/python-programming/assert-statement
6. You will also learn to use the Python debugger (pdb). In a separate Jupyter Notebook document, following along with this tutorial and show that you have completed it.
    - https://davidhamann.de/2017/04/22/debugging-jupyter-notebooks/
    - Then, create another Jupyter Notebook with an example function from your `.py` Python script showing that you can apply knowledge of pdb to your own code.
7. Reading sections 4.3-4.7 in the book for information relevant to debugging.
8. **BONUS (E.C.)**: Use the Python shebang: `#!/usr/bin/env python` and place your Python scripts into your script directory so that they can be run without calling python like we did with our bash scripts.
9. Post all parts of this assignment in a new directory named `python-scripting` within your `eeb-c177-project` repoistory on GitHub by Saturday, 2/22 at 12 noon.