Week Seven Reflection Journal

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The writing of this reflection journal feels like the beginning of the end of this experiential learning activity. The first five weeks served mostly as an introduction to Python where I became familiar with the syntax, execution, and basics of the language. In the last two weeks, I have taken on some more intermediate topics such as data wrangling, cleaning and visualization. In the remaining three weeks, I will use what I have learned throughout this experience to work on a data visualization project, the executive brief, and the guessing game program assigned in module eight.

My activities this week consisted of reading chapter 9 of Introduction to Scripting, working on the practice script assignment, exploring data visualization in Python through a Pluralsight course and Python for Data Analysis, and finally continuing with exercises from Learn Python the Hard Way.

**Learning Experiences This Week**

I began the week by reading the assigned sections of our Introduction to Scripting textbook and then trying my hand at the practice assignment script the following day. The topic of the textbook and assignment was recursive functions, which is when a function references itself as long as a condition is held. I had never seen these types of functions, but the textbook did a good job of explaining them with examples of drawing trees and nested shapes. When I tried writing the script for finding the factorial of a positive integer, I was relatively easily able to make the program work when I provided it with a positive integer. The challenge that I ran into was trying to return an error message for non-positive integers. My program checked if the input was greater than 0, and it printed out an error if the value was 0, a negative, or not a number. The situation that didn’t work was when I inputted a positive non-integer, such as 4.5. In order to resolve this within my program, I wrapped it in a try – except block which printed the same error message for all cases that were not positive integers. Although I’m sure there are probably more elegant solutions, and I’m not sure if a try – except block is technically supposed to be used in a production script, I was happy to work around this challenge and get the program to execute according to the instructions in the module overview.

Over the next three days, I continued my data visualization activities from last week. The resources that I have used are Pluralsight courses as well as chapter 8 from Python for Data Analysis. The Pluralsight course that I watched last week introduced me to plotting in Python by using line charts, bar charts, pie charts, and scatter plots. The course that I watched this week expanded on each of these chart types, and it included additional lessons on customization, interactivity/animation, and embedding visualizations. I was also able to complete chapter 8 which I started last week. Many of the same concepts were covered in the book as in the Pluralsight courses. When working through the chapter, I copied all of the code into a Jupyter notebook to both practice coding and to make sure that I could execute it myself. A challenge that I ran into was that the code from the book is based on Python 2 and therefore somewhat outdated. When I ran into outdated code, I had to look up how the differences between the Python kernels and try to modify it to run in Python 3. A couple of specific differences that I encountered were the use of ix vs iloc and the mpl\_toolkits.basemap module.

Finally, I continued with exercises from Learn Python the Hard Way. I completed five exercises today which brought my total to 18 of the 52 main exercises in the book. I had not been able to work on any of the exercises in the last couple of weeks, so I was happy to have time to dedicate to the exercises today. At the beginning of the course, I had the pipe dream of completing all 52 exercises, but at this point I will be satisfied if I complete 9 more, which would be the entire first half of the book. Over the next 3 weeks, my goal is to complete those next 9 exercises, continue reading another chapter or two of my Python for Data Analysis book, work on a data visualization project, and complete all of the other standard course requirements, such as discussions, practice scripts, the executive brief, and the certificate of completion.

**Record of Project/Work Ideas and Their Current Status**

* Guessing game program
  + Not started
* Learn Python The Hard Way
  + 18/53 Python exercises
  + 15/15 Command Line Crash Course exercises
* Visualization with real data set in python
  + Completed 2/2 Pluralsight courses on data visualization
  + Read & followed code of Python for Data Visualization Ch 8
  + Not chosen a topic/dataset

References

McKinney, William-Wes. 2012. Python for Data Analysis. *O’Reilly*.

Miller, Bradley and Ranum, David. 2017. Introduction to Scripting. *Jones & Bartlett Learning.*

Shaw, Zed A. 2014. Learn Python the Hard Way. *Addison-Wesley*.