Week Three Reflection Journal

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IT 697: Python Experiential Learning Activity

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The biggest challenges that I faced in second week of this experiential learning activity, aside from being in South Carolina for the final four days, were due to not having a solid understanding of how to run python code and script files. In this third week of the experience, I explored many of the tools and options that are available for executing python code and building programs. Last week, I attempted the first 3 exercises of the book Learn Python the Hard Way, where it was expressed to write the code into a text editor and then run the file via the terminal. I struggled to get my computer to do this, until I copied my python installation into my current working directory. I knew that there were other options for running python code, and this week I spent a majority of my time reading and watching videos about those options. My activities this week included reading two more chapters of my book Python for Data Analysis as well as the assigned sections of the Introduction to Scripting textbook, working on the practice assignment by printing different types of objects using IDLE, and watching the first lesson in Python for Data Analytics course on Pluralsight.

**Learning Experiences This Week**

When I was coming home from South Carolina on Tuesday, I was able to read the third chapter of Python for Data Analysis. The chapter went in depth on iPython, the project itself and the Interactive Development Environment. I knew Python had IDEs, with which I am familiar due to some experience with RStudio, but I only knew of IDLE, since it comes with the Python installation, although it is quite limited. One of the main things that the chapter emphasized, which also became a focal point of my learning this week, was debugging. Debugging is one of the main benefits of using an IDE for programming. I have not written enough code to truly need the full debugging process, but I understand how important it is and how IDEs make it easier. The next steps in my experience this week were reading the assigned textbook sections and working on the python assignment from the weekly module page. The sections on methods for calculating pi were great examples of how mathematical concepts and programming can be combined to solve problems. Additionally, the section on concatnating strings helped with the assignment. The assignment was extremely similar to the introductory exercises that I mentioned from Learn Python the Hard Way. The difference for me was that instead of using a separate text editor and the terminal, it was advised to use IDLE, where I could work simultaneously on my script and run the file within the IDE. It was much easier to properly execute the code in this fashion. I also had to research the escape character and how to use quotations for the assignment. Practicing using these characters in a relatively basic program will be helpful when I actually start writing python code myself.

After I had completed the assignment, I still had plenty of work left to be done for the full weekly experience. Last week, I had watched the first lesson from the Core Python course on Pluralsight. This week, I chose to watch the first lesson from the Python for Data Analysts course, which I hope is more closely aligned with my objectives for this experience. The lesson was called “Building your First Analytics Solutions”, and it mostly covered the various options for programming in python using execution environments, IDEs, and the cloud. Although I was not expecting this to be the content in the first lesson, it was exactly what I needed to develop my understanding after the challenges that I faced last week. The lesson demonstrated Jupyter notebooks, IDEs such as PyCharm and Eclipse, and cloud platforms such as Azure, AWS, and GCP. As I mentioned with the iPython chapter, one of the focuses was on debugging. I was able to see the process in each IDE, so I became familiar with concepts like breakpoints and stepping into functions.

Finally, this evening, I continued with my Python for Data Analysis book and read the fourth chapter on NumPy. Beyond reading about basic python elements and syntax in various books, this was my first time seeing Python being used to analyze data from scratch. From my understanding, NumPy includes the array object and many functions and methods for working with data of this structure. I have some experience working with vectorized computations in R, so most of what I read was not too over my head. Having some knowledge of R seems like it will be quite helpful for learn python, at least when it comes to its analytical capabilities. Next week, I will continue with chapter five of this book, covering pandas. I will also likely watch the second lesson from the Python for Data Analysts on Pluralsight, and I hope to attempt a few more exercises from Learn Python the Hard Way.

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

* Guessing game program
  + Not started
* Learn Python The Hard Way
  + 4/53 Python exercises
  + 15/15 Command Line Crash Course exercises

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*.