**Lessons Learned**

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ITS320: Basic Programming

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When reflecting on this class, it often leads me down a path reflecting on other courses I’ve had in the military and what initially got me interested in programming. This class is one of a few foundational courses that I’ve had the privilege of attending. My first exposure to python was when I arrived here at now, Buckley Space Force Base, where I oversaw others who were using python to create a program. The exposure to it led me to taking my first courses with National Geospatial-Intelligence Agency (NGA) in Springfield, VA and many good experiences with learning to program.

The programming being done on base by my peers initially piqued my interest in programming. They were using python to create a program, where the data they have is taken from other sources. Using this data, they filled gaps with information by displaying historical data and other metrics, previously not available to other users. Since then, they’re using a Jango front-end and using a lot more Javascript for their backend.

Several years ago, the NGA had a trial period with Datacamp, where they purchased licensing for all their employees. This was my first exposure to learning to program. I went through many hours of python courses and was able to become a beginner program. This coupled with my first unofficial class from one of the Non-commissioned Officers (NCOs), where over 8 weeks, we were going from nothing to writing a full poker game, gave me the foundation I have today.

Each time I would login and look at the week’s module, I would get flashbacks to those previous classes, courses and, as odd as it may seem, this class felt too slow. I needed more course work to gain a better understanding of the Python 3 fundamentals. That’s when I started doing course work one, two, even three weeks ahead of schedule. Once I was ahead, I got a membership for Codecademy to continue my learning. As much as I’d like to say this was easy, it was a good challenge.

Calling classes and methods are where I struggled the most. After that, most other pieces of the program would fall into place. I’m also still rusty at planning as most of the time I don’t use pseudocode. I typically just start putting classes with methods into the IDE and change things as I go. I leveraged peers, who have a lot more experience than I, to gain feedback and improvements on my code. Week two or three is where I was first shown *if \_\_name\_\_==”\_\_main\_\_”* and I still haven’t set aside time to learn how best to implement it in my coursework. This reminds me of how I’ve best learned programming to this point.

Earlier I spoke about my previous classes at NGA, I took two, one week Python courses. The courses were open book, open notes, and more relatable to real-world developers in that ideas could be discussed and implemented in our code, we just had to write a comment about who helped us with that portion of the program. We used Jupyter notebook and learned about Pandas, matplotlib, and other libraries that could be used for data manipulation. Ultimately the course was more about data science than development, but I was still able to gain a lot of experience from it. I think this course could benefit from more cooperation between students as it will allow students to teach what they’re strong with and learn from others where they’re weak.

The speed of the course fit the lessons we had well. Similarly, the Introduction to Python 3 in Codecademy had similar lessons and was projected to be a 25-hour course. It was completed faster than that, but to understand the concepts and practice them more it took more time. For someone like myself, I think having some pre-defined programs to solve where we would be given a component or attributes and we’re assigned to finish the code, would be beneficial for a more solid foundation. I find that programming is learned a lot by doing and seeing examples of other programs. Now that I’ve got source code from doing Codecademy, Project Euler, work, and this class, it’s much quicker and easier to complete tasks.

I enjoyed this course, and this is one that I would’ve rather had in person to work with classmates as a team on these projects. I’m happy with the progress I’ve made with my understanding of Python 3 and am excited to see what else it can be utilized for in the future. Thank you for teaching us.