I think the most valuable thing I learned in this course was how to learn a coding language. I have been interested in coding for a long time, but I never fully understood it. Now that I understand the syntax, the different ways something can be written, and what certain lines of code mean relative to the language you’re coding under, I can learn other languages too. I think the second most valuable thing I learned in this course was to know how to creatively solve problems. Creative problem-solving is essential for solving problems in the real world, as you consider all possibilities, and knowledge from other disciplines and fields to have ideas for projects. Through the game project and the data project, using my expertise in other fields has generated inspiration for me to use in my projects on the type of game I chose to make and the dataset I chose to use.

In my game project, I chose to make a Russian roulette-style game. It was very difficult to make, and I didn’t fully understand object-oriented programming at the time, so my code wasn’t as clean as it should be. Regardless, I pulled through my game project worked. Although they were competent coders, I found it difficult to work with my partner, as it seemed like I had to tell them to do everything, and nothing would be done unless I told them to do it. I think if I had more experience with object-oriented programming, I would’ve conceptualized the project’s code better, making the creation of each class and method to be concise, efficient, and functional.

In my data project, my partner and I chose to work on a dataset that involved the student body from Stellenbosch University in Africa to find out what the culture is like at that university. We concluded that there is a heavy drinking culture in that university due to the large number of business degrees present and because of parental and cultural acceptance of drinking. I really enjoyed working with my partner on this project because we got to make interesting research questions and make plots that showed our research. Additionally, learning how to use Matplot lib is an essential skill that helps in research and other fields like computer science and artificial intelligence (AI)/ machine learning (ML) engineering.

I found learning object-oriented programming to be the most difficult this semester. It was difficult because I didn’t quite see how it is used in the real world, until the data visualization unit where I was using a lot of the classes to make graphs, and the syntax of making the graphs really allowed me to make sense of object-oriented programming. To get through the object-oriented programming labs, I used Google Gemini to explain what the code means and how to think of the code. I never used it to write the code for me. This was really helpful because I could have a conversation with the AI, and it definitely helped me get through some of the tough parts of the labs. Another resource I found to be helpful was the Github to find examples of the code that worked. Understanding what was the right thing to write allowed me to understand each component of the code from the bottom up. Furthermore, speaking with the teaching assistants and Dr. Xie was extremely helpful because I immediately got help whenever I didn’t understand something during the lab lectures or the in-class lectures. Also, they always had insight on how to solve the problems in the labs, which significantly reduced the time spent explaining the lab to the AI and finding external resources that dealt with these scenarios.

I think I will use coding in the future at Binghamton to compete in the hackathons here! I thoroughly enjoy coding and making use of the different ways you can solve real-life problems. I hope to find a software engineering internship or a machine learning internship with the coding experience I attained at Binghamton University. Furthermore, I will do more projects on my own time and learn other coding languages because I know that many coding languages share the same format and functions, but are written differently.