

## Reflection

### **1. What was the problem you were solving in the projects for the course?**

The project for the course was how to solve different problems that is related to the data structure and the algorithms. The first part of the project was more focused the analyzing run-time and how the memory usage of the different data structures like: arrays, linking list, the stacks, queues, trees, and graphs. The second part was more involving how the sorting and printing of the list for the course of the computer science program in the alphanumeric order.

### **2. How did you approach the problem? Why data structure are important to understand.**

The main thing I had to do to approach the problem was to first be able to understand the problem's statement and what the requirements needed. Then after I understand then I need to determine which is the most appropriate structure is being used from the specific characters. It is important to understand the data structure for easier access to solving the problem. The structure I used was the various techniques which includes the implementing algorithms, and optimizing the code for the performance and the memory usage.

### **3. How did you overcome any roadblocks you encountered while going through the activities or project?**

One of the roadblocks that I encountered throughout this course was understanding all the data structures and the implementation details used. Some of the reason the papers were turned in on the last day due is to get through the roadblocks I had to go back and review the course notes. Then I still didn't fully understand so I went and did research online using different libraries. The last resort was having one of my co-workers check to see if I was heading in the right direction. After using the different resources I was able to break the problem into smaller sections and testing as I went.

### **4. How has your work on this project expanded your approach to designing software and developing programs?**

The one thing that the project helped with is reminding me the importance of understanding the data structure and algorithms. Knowing the different structures has also taught me that I can used different structure and trade off to make easier to work with. The approach to this project has helped me in my field of work by knowing the importance of doing all the steps needed like testing, optimizing code, and always have documentation for each stepped covered.

### **5. How has your work on this project evolved the way you write programs that are maintainable, readable, and adaptable?**

The way evolved in writing programs by the importance of the design to be clear and concise code with using comments to help maintain trouble shooting easier. Over all this course has been a valuable experience that helped me consider different programming skills.