**CMSC 204 Assignment 6**

**Learning Experience**

In this assignment, we had to create a program that maintained a network of roads and towns and find out the shortest way from one town to another. The program used Dijkstra’s Shortest Path algorithm to determine the shortest past between two cities manual entered in the GUI or from a file. We were provided Javadoc for the data elements and interfaces for data structure and data manager.

This assignment was tough for me. I was having a hard time figuring out how to code the Dijkstra’s Shortest Path algorithm. I watched many videos on YouTube to understand how to code the algorithm. I also kept getting a NullPointerException in shortest path test in graph test and the same exception in getpath() method in TownGraphManager Test. I knew all these exceptions were happening because of the same reason but I did not know what was wrong. I printed out which vertex was being checked, which one would be traversed next, and the weights just to get insight on why the neighbor vertex is null. Doing this helped me get rid of the exceptions. I also drew a graph on my notebook for the tests to visualize the graph in the tests.

I also felt a little bit rushed while doing this assignment as it was our last assignment. This assignment was very tricky, but I learned I lot from it.