Through the last two Coursera modules and this homework I have learned a lot about C++ and computer science in general. For starters, I had a minimal background on graph theory, so going through how to generate graphs programmatically using both matrices and lists in C++ helped broaden my programming skills. This section of the class has also taught me how to effectively use classes in similar way that structures were used in C. This opens up my coding library to include all kinds of custom types. I have also learned how useful operator overload can be for writing powerful and efficient C++ code. This homework along with the modules in this section have also taught me how to implement the Dijkstra algorithm. I have learned how to use it to find the shortest path between vertices in a graph. Discovering how the algorithm can be used in real world applications also opened my eyes to how I can tackle applicable problems using my increasing coding skills.

My program randomly generates a graph from user input that includes: graph size, density, and minimum and maximum cost between vertices. It then uses the Dijkstra algorithm to find the shortest path.