Personal Reflection

This project was written in eclipse at first using my Nobara OS, a Fedora Linux os loaded on my external SSD, and it was submitted just in time. I had no idea how much expense this decision would cost me. In order to make it difficult for someone to access and read my data in the event my hard drive is stolen; I had enabled file encryption. In order to avoid having to boot into the linux environment, I just went into the directory via the NTFS hierarchy and transferred the contents into Windows because I was short on time. In conclusion, every file that was initially submitted is corrupt, and to make matters worse, the drive has had problems due to a severe fall. So, as soon as I realised they were corrupted, I immediately sent you an email.

Putting that aside, I redid the project from scratch.

I quickly realised that an A\* search was the best method for finding a valid route linking the two city pairs and that it would allow for optimality to be used as a heuristic. I began by importing the CSV file database using a buffer read. This is because it reads the lines from a small buffer stream, which makes it easier to put the data in an array that would be indexed. While researching the A\* search algorithm, I came across a github project that uses the method to find a taxi for a customer who calls for one. Quite abstract, but the idea was quite helpful

The value "f," a parameter equal to the sum of two additional parameters, "g" and "h." is used by the A\* Search Algorithm to choose which node to choose at each step. At each stage, it selects and processes the node or cell with the lowest "f" The cost of moving along a route designed to travel from a starting point to a specific city is called g. h is the estimated cost of travelling from one city to another based on their respective haversine values. The term "heuristic" is commonly used to refer to this sum, which is essentially another way of saying "educated guess."

After that, I optimised algorithm to output the results to a file.