Project Reflection

This project was a tedious one, however, it was also very interesting and ultimately rewarding. It required many hours of pre-planning in order to even figure out how to process the input files we were given into a form that could be used for the task at hand. This task was made even more difficult due to the inconsistencies in the files which necessitated a more flexible approach to processing them. After doing this, there was the small task of building a search algorithm that could traverse this very large route state space and return actions that could be used to determine the path someone could take. Representing the state space was a challenge in itself, but one that was ultimately overcome with the use of the graph data structure. All in all, many lessons were learnt and I will detail a few of them in this reflection.

The first big thing that I have gained from this project is that the importance of a plan before writing any code has become so much more apparent to me. For this assignment I tried to decide how to format the input files and took some time to come up with an efficient way of doing that. This meant I spent less time writing code. However, later down the line, I realised that some of my assumptions were not as well thought through as I thought and it led to multiple revisions of my work.

I also learned about new variations of some data structures that have unique features. The linkedHashSet stores information without allowing duplicates just like a normal set. However, since it uses the implementation of a linkedlist, it is able to maintain the insertion order that it was provided with, thus giving it an edge over a normal HashSet for certain tasks. I also learnt about the SortedHashMap which allows users to specify a particular sorting order for a hashmap and that also proved useful in certain situations.

I believe this project has moved me closer towards the programmer I want to be and for that I am grateful. There were many lessons learned that will be applied in future projects and assignments.