Reflection on Individual Project

The assignment required that we read and gain data from csv files. The data we obtained was to be processed to find the route from one city to another via airports and airlines. I used an object-oriented approach. The first thing I did was to learn how to read from csv files. CSV files are comma separated hence to get the strings I needed, my delimiter I picked was the comma ",".

After reading from the files, I created a class for each of the files, where the class instance variables where the fields I needed from the files. Realizing the values I had to return were the airlines, airports and stops, I deleted my airline class because the routes and airports file had all the information I needed. The data I read from these files, I stored in a HashMap for easy location and indexing of data. For my airports HashMap, my key was a string of city and country to improve uniqueness and the values were objects of all possible airports. For my routes HashMap, my key was the start airport IATA code, and the values were route objects of all the destination airports. For the airline HashMap, with data from the routes file, I set my key to be a string of source airport code and destination airport code while the values were an array list of all the possible airlines

Next was performing the search. I decided to use the breadth-first search we learnt in our Intro to AI course. It is the most optimal search that I am familiar with. I wrote my search according to the algorithm from Russell & Norvig (2020). After performing the search and gaining the path, I used my airline class to retrieve an airline from the passenger based on their source and destination

This project helped improve my use of Object-oriented programming, error handling and file input/output. I also learnt the importance of planning ahead for projects.

References

Russell, S. J., & Norvig, P. (2020). *Artificial Intelligence: A Modern Approach* (4th ed.). New Jersey, United States: Prentice Hall.