REFLECTION OF INDIVIDUAL PROJECT

This project came with three CSV files: routes.csv, airlines.csv, and airports.csv. I created three classes for the three files respectively.

In each class, I provided the instance variables associated with them as provided in the <https://openflights.org/data.html> website. I also created a constructor with each of the instance variables. I then read the respective files, split them and store the values in a HashMap.

In my HashMap, the keys were all Strings in all the classes and the values were ArrayList that contained all the objects associated with the particular string. The reason for the use of an ArrayList to store my values was that there were situations where a particular key appeared severally in the csv files. So, in such situations, I add the values to the ArrayList of the already existing key.

I then created a new class (Reading class)that takes in the input file from the user and returns an output file that contains a route from the user’s start point to the endpoint, the number of flights the user will take and the number of stops the user will make.

In ‘Reading class’, there is a method that takes the user’s file and reads it using a Buffered reader class. The two lines in the file are stored in two different variables. The first line’s variable indicates the start city and country of the user, and the second indicates the end city and country. I first check if these variables can be found in my airport HashMap. If they can be found, I return their respective airport IATA codes. These codes are necessary because they are the Keys In my Routes class’s HashMap.

The second method in the ‘Reading class’ checks performs a depth-first search algorithm where the starting IATA code is first compared to the end IATA code to check if the starting point of the user is the same as the ending point. If it is not, I look for all its child iata codes and so on until the final IATA code matched with my end IATA code.