**Yasmin Kamal-Deen Individual Project**

The problem was to find a flight route from one city to another. To solve this problem, I began by creating three other classes aside from Main.java. Each of these classes was designed to deal with three main components of the problem – airlines, airports, and routes.

The Airline.java class performs functions such as returning the ICAO code for a given airline id and determining whether an airline is available to fly. The Route.java class performs functions such as creating graphs and finding routes. The Airport.java class performs functions such as getting airports in cities.

To find a route, we read from the input file to extract the start city and the destination city. I used a readFile method in Main.java that throws a FileNotFoundException and an IOException. The exception handling in that part of the code and other parts ensures that the program runs as its supposed to. Special cases where either of the cities had commas present were taken care of. Next, we find the optimal path for the route. A search algorithm was used to find multiple paths. The optimal route was selected based on the shortest distance from the start city to the destination city. After, we write to the output file. Some different cases I addressed in my code were;

1. When the route required one flight,
2. When the route required multiple flights,
3. When flights cannot be found

By doing this project, I gained experience creating classes and methods. I also gained experience reading and writing from files. Overall, this project challenged me to explore the Java programming language more.