REFLECTIVE REPORT

Name: Wendy Tima Gamvah Pasiah

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This project was very challenging but I have learned a lot of concepts in c++ due to this project. My partner and I decided to share the work although we still got involved in the work that we assigned to ourselves when one person faced difficulties. I was assigned to convert the airports.java, airlines.java, and routes.java to c++ files(airports.cpp), (airlines.cpp), (routes.cpp). These files contain the implementation of their respective classes defined in the header files(airports.h), (airlines.h) and (routes.h). The classes was defined in the header file and the reader methods to read the files was declared in the header files as well. In routes.cpp, airlines.cpp and airports.cpp files we created the reader method to read the various attributes in the different columns of these files, note that this method was created in each file. The reader method reads the file, splits the lines in the file, and stores the values in a map, the keys of the map are strings and the values are the vectors of Routes objects. I faced two primary challenges in converting a list in java to a vector of route objects (same thing with the airlines and the airports objects). Also, I also faced a lot of challenges in converting a hashmap to a map.

The search method was implemented in the main.cpp file. In the search method, we decided to use the breadth-first search algorithm to find the optimal path from the start location to the end location. Two different methods were also created to read the user input file and print out the output file containing the path and the respective airlines from the start location to the end destination. Whilst implementing the concepts in this project, I learned a lot about c++ and the primary difference in syntax between java and c++.