ICP Project 2: File Processing

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Intermediate Computer Programming

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Reflective paper.

The project required us to develop a C++ implementation of an algorithm that displays a user journey when travelling from one city to the other by air. The solution concept should have both starting and ending states where it prints out the number of flight connections using the various stopping points. The three CSV files which include airports, airlines and routes are being utilized to find the shortest path and the cities that a user will explore before reaching the destination city. We used the data descriptions about each of these files and performed the necessary operations on the files to read from and perform some file operations such as drawing out the relationship between all three files and calculating distances between airports. We employed object-oriented programming concepts such as abstractions, encapsulation to manipulate the CSV files as well as to create the various file classes and variables. We used getters and setters to access the variables created. The various files contain at least seven functions that control access to member variables in the classes. We then moved on to creating the controlling method, the main method where the files were imported and saved with the dot(.) h extension. We were able to read from the files and carry out the task of locating available airports from one city to another with the aid of the main method function. The Route.h, Airline.h, Airport.h, classes were imported later to help in the implementation process.

Moreover, I gained a lot of insights during the implementation but what stood out was the concept that helped in reading the files. It was a bit challenging until I finally got the bug fixed and the code worked. The project has developed my understanding of the various approaches in reading files in C++. Constructing classes and variables was also interesting working in C++. In all, it was a great experience while working in C++ to find the problem solution.