Swallieu Dawud

C++ Project Reflection

It was thrilling and challenging for me to build this project in C++. I gained a lot of knowledge by working on this project. The project's main goal was to identify the path a flight should have taken from its departure point to its destination by utilizing data from a company called open flight.

I had to search through the available datasets for this project to find a reliable route between the two locations. I have to use a search technique to provide this viable approach because of the nature of the problem. After looking at a few different search algorithms, I ultimately settled on Breadth-First Search since, in my circumstance, it was more reliable than A\*, Depth-First Search, and uniform cost search.

A search algorithm called Breadth-First Search (BFS) looks for nodes in a tree data structure that satisfy a particular property. It starts at the tree's root and examines each node before moving on to the nodes at the next depth level. To follow the path from the starting point to the objective, additional memory, frequently a queue is needed to keep track of the child nodes that were encountered but not yet explored. I recorded the data from the airport using a hash set to find valid and practical routes between two cities (its ID and other attributes). I created a method (using different ways) that takes a start and end airport as parameters and returns a node containing the path from the beginning to the end airport.

Although we used java to work on this project, it was challenging to translate the java program into a C++ one due to C++'s limitations. Therefore, I had to apply techniques to resolve the issue in C++.

To sum up, I would say that this project has been beneficial since it has tested my ability to use search algorithms to read through a file and provide a valid route in a different file.