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Reflection On ICP Individual project

It was both challenging and thrilling for me to develop this project. Working on this project allowed me to learn a great deal. The project focused on leveraging data from an organization called the open flight to determine the best route a flight should have traveled from its starting point to its final destination.

I had to look through the available datasets for this project to establish a reliable path between the two locations. Due to the issue's nature, I must employ a search algorithm to present this valid route. After researching a few other search algorithms, I ultimately chose Breadth-First Search since it was a more dependable search method for my case than A\*, Depth-First Search, and uniform cost search.

Breadth-First Search (BFS) is an algorithm for searching a tree data structure for a node that satisfies a given property. Before going on to the nodes at the next depth level, it begins at the tree's root and investigates every node there. Extra memory, often a queue, is required to keep track of the child nodes that were met but not yet investigated to be able to trace the path from the beginning point to the goal. To identify legitimate and functional routes between two cities, I used a hash set to record the airport's data (its ID and other attributes). I created a method (using other methods) called generatepath that takes in a start and end airport as parameters and returns a node that contains the path from the start to the end airport.

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.