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CS313: Intermediate Computer Programming

Individual Reflection Essay

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Cohort A

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This individual project made me reflect on my abilities to read files and took me back to my Data Structures and Algorithms course and, more recently, to Intro to Artificial Intelligence class. Looking at the data I was presented with, and I struggled to make sense of how to represent all the information I was given. After consulting some of my friends and with the help of two faculty interns, I decided to use the HashMaps structure since it has a better time complexity for retrieval. The breadth-first search(bfs) algorithm was used to find the goal state from a given initial state.

The bfs takes in an initial Location and the destination. All available airport codes in the initial location are generated and used for the search algorithm. For the various airports, the possible routes from the airport were generated, and the destination of the routes. The method then checks if the destination is the goal. Once the destination is not the goal, then successor routes will be generated until the method finds the goal. The solution path is also generated, showing the various routes from the initial location to the destination. The method also used a queue to keep track of all the nodes that have been yet to be explored and the explored set to keep notice of the nodes visited already to prevent repetition and use the memory efficiently.

This project has taught me a lot about writing your ideas rather than jumping to code. It also reminded of the importance of storing data and how to use the right data structures to store the right data.