Project Goals

Dataset: Openflights

https://openflights.org/data.html

- Vertexes - airports
- Edges - flights between airports

Traversal: BFS

- Given the starting location and destination airports, we will use BFS traversal to traverse through airports with connecting flights between starting and destination airports.

Shortest Path Algorithm: Dijkstra's algorithm

- We will use longitude and latitude coordinates of airports to calculate the distance between airports (weight of edges)
- We will use Dijkstra's algorithm to calculate the shortest path preferred flights (routes)

Given the starting and destination airports as inputs from the user, the program will list the connecting flights for the shortest flight time and also the total distance. For airport identification, users will use 3 letter IATA codes for their location and destination inputs. If the user enters an invalid input (non-existent airport), the system will ask for users to re-enter the input.