

# Goals

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## Dataset

As a team, we have decided to use the flight data set (<https://openflights.org/data.html>). The data flight set is going to be filled with flight routes, and these routes will be treated as a graph with edges. For the weight, we decided to use the suggested method of using  $(1/\text{number of routes})$ . We believe that using this method, the weight of each flight/route can be measured and compared. Hence, the algorithms mentioned below can be used.

## Algorithms

For this dataset, we decided to use a Depth-First Search traversal. The traversal will be used to go through all of the flight routes, and this would then be stored so that it can be used.

For the algorithms, we feel like the following options are the best suited for our purposes.

- We will be using the shortest path algorithm, specifically the Dijkstra's Algorithm, to find the shortest route.
- We will be using the Landmark Path. With this algorithm, the path between routes will be connected.
- Finally, the last option we would probably try to finish would be to try and output the routes unto a world map graphically. However, for this option, we are still unsure of how to map the different routes to their respective locations on the world map accurately.
- If the option to graphically display the output onto a world map seems to be difficult, we would try to use a PageRank option. We would rank the different routes and flights, where the ones that are the most connected would be ranked at the top and vice versa.