

GOALS: (GOALS – A one-page summary of the dataset (source location and format) you are using and the specific algorithms you have chosen to implement.)

The dataset we have chosen to use is OpenFlights (<https://openflights.org/data.html>). It is an open source dataset of flight routes and airports. OpenFlights provides datasets for airports, airlines, routes, planes and countries. The datasets are downloadable as a CSV (comma-separated value) which can be parsed to insert nodes/edges into the graph.

We have decided to create a graph of the airports and the connecting flight routes. This graph will allow us to create weights for the edges based on the distances between airports. The airports dataset provides latitude and longitude values for the airports which can be used to determine distances between airports by approximating the Earth as a sphere.

We have chosen to implement the following two algorithms in addition to a DFS traversal: Landmark Path and Graphical output onto a world map. The Landmark Path algorithm will find the shortest path between airports a and b, but must go through a landmark airport, c. The graphical output algorithm will take the path found by the graph and write it onto a PNG of the world map.

We will write tests for each of our algorithms and provide them appropriate test cases to adequately assess our implementations' functionality.