

Design Brief (ENGSCI 233 Project)

I have implemented the nearest-neighbour algorithm. This algorithm uses a greedy heuristic method to search through all possible paths from one node to another. In this case, throughout each iteration, it finds the shortest path from a given node to the next by evaluating all the possible destinations and returning the closest node by distance. The intent of this method is to find a global optimum of the entirety of the list.

This algorithm was chosen with the intent of finding the best possible solution from all the solutions. Although it is not the most efficient in terms of computation, it is one of the best in giving an optimal solution as it goes through every possible path. Therefore, I chose this algorithm in order to give the most efficient route under the assumption that a problem of this importance will have a machine with high processing power. Therefore, I have placed importance in finding the best possible solution over the fastest possible solution to give the global optimal path regardless of computational speed.

The final total computation time required to find the solution was approximately 12 minutes long.

The final distances travelled by each carrier are:

1. 18.469
2. 15.835
3. 16.386
4. 11.493