A Project on Travel Planning

Submitted by

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Motivation of This Project

- Providing a hassle free and simple travel planning process.
- Overcoming the time constrain problem.
- Provide a budget friendly travel plan.
- Provide an efficient travel plan by streamlining the entire process.

About The Project

- Implementing the graph theory and related algorithms
- Viewing the route according to user's requirement by implementing related algorithm.
- Visualization of the end result

Features

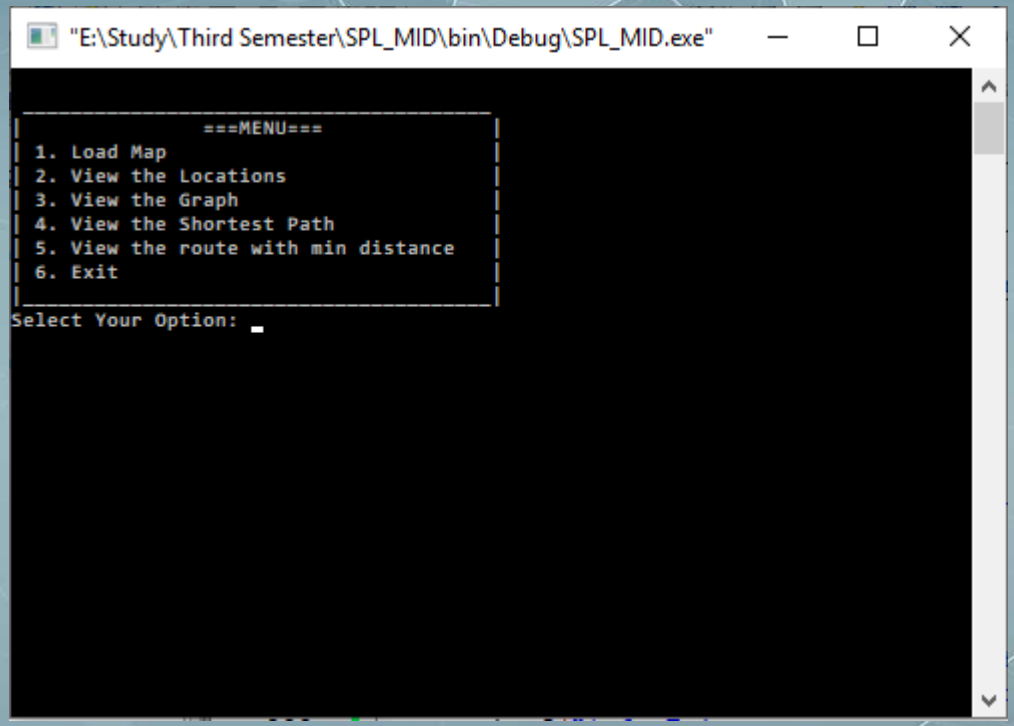
- Creating a graph from the given co-ordinates
- Viewing the shortest path from source to destination
- Viewing the shortest possible route, starting at the source, travelling every location and returning to the source.
- Providing a budget friendly travel plan
- Providing a plan with maximum destination coverage in shortest possible time.
- Representing a visualization of the route

Algorithms Used in This Project

- Dijkstra’s Algorithm
- Branch and Bound Algorithm

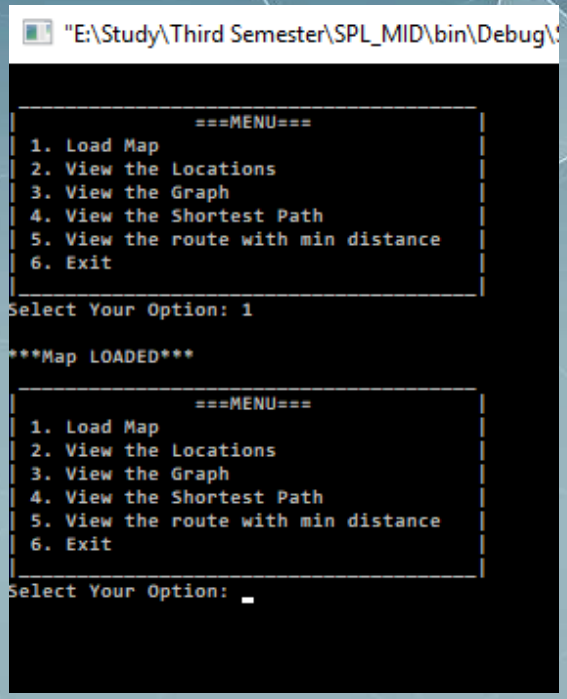
Menu

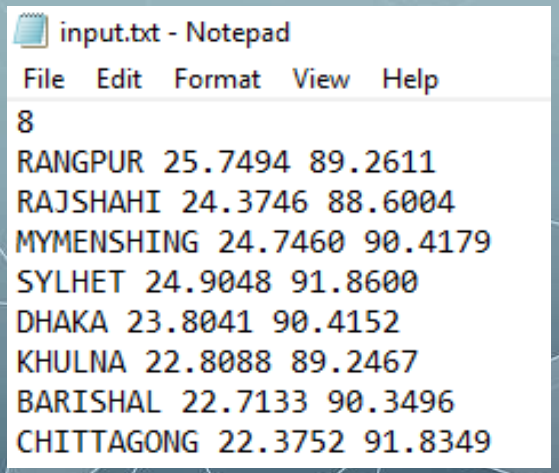
A menu will be given to choose what operation the user wants to perform. The program will terminate when “Exit” is selected

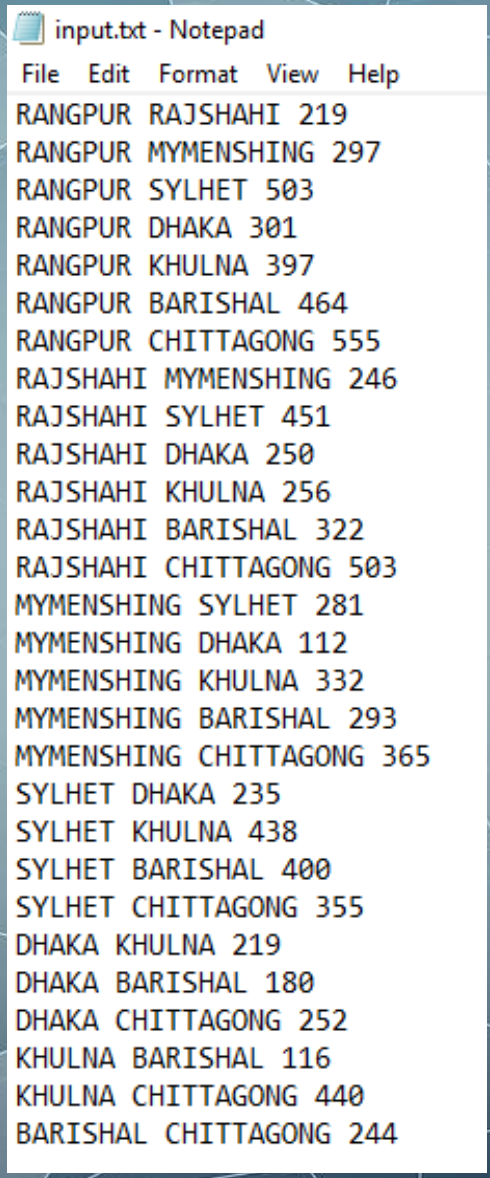


Load Map:

This will initialize the graph using the given locations, co-ordinates and weights.



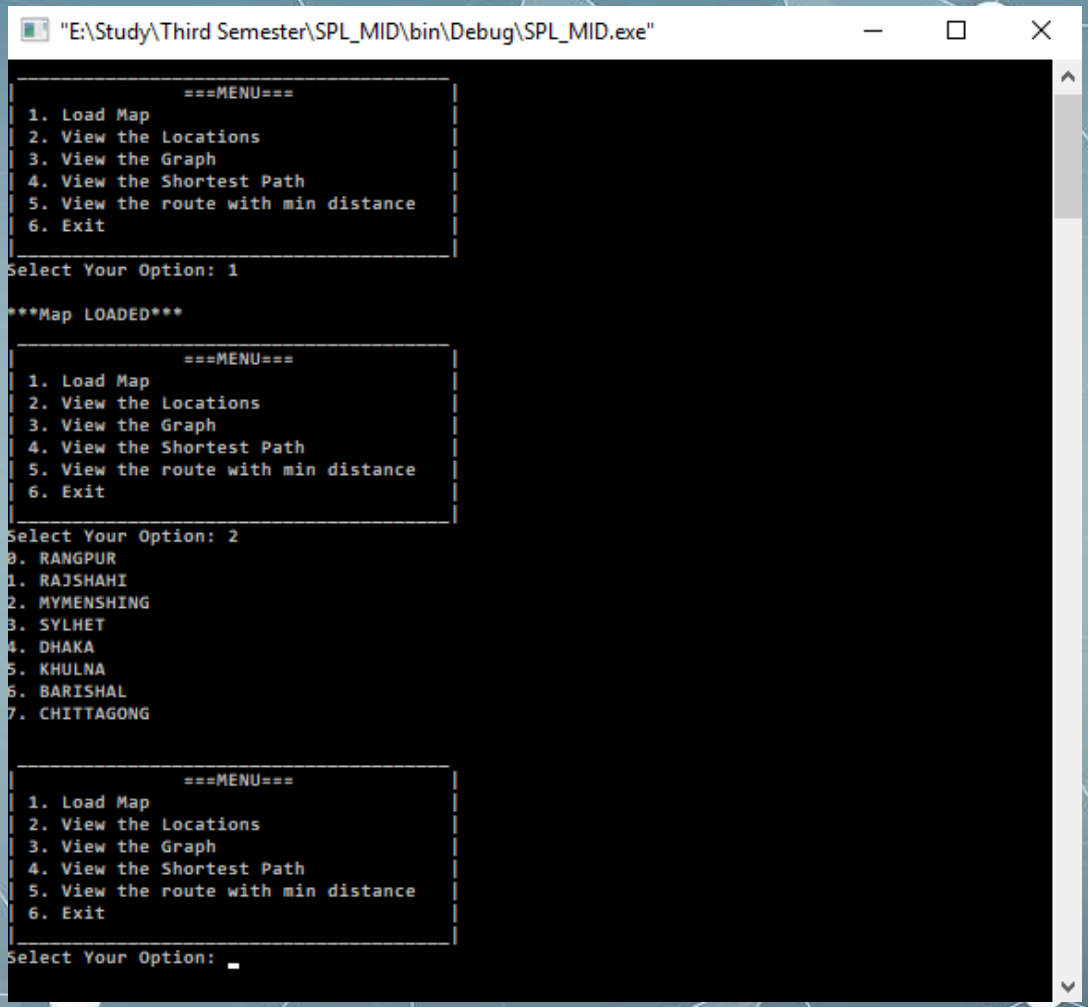




Co-ordinates and distances where taken from Google

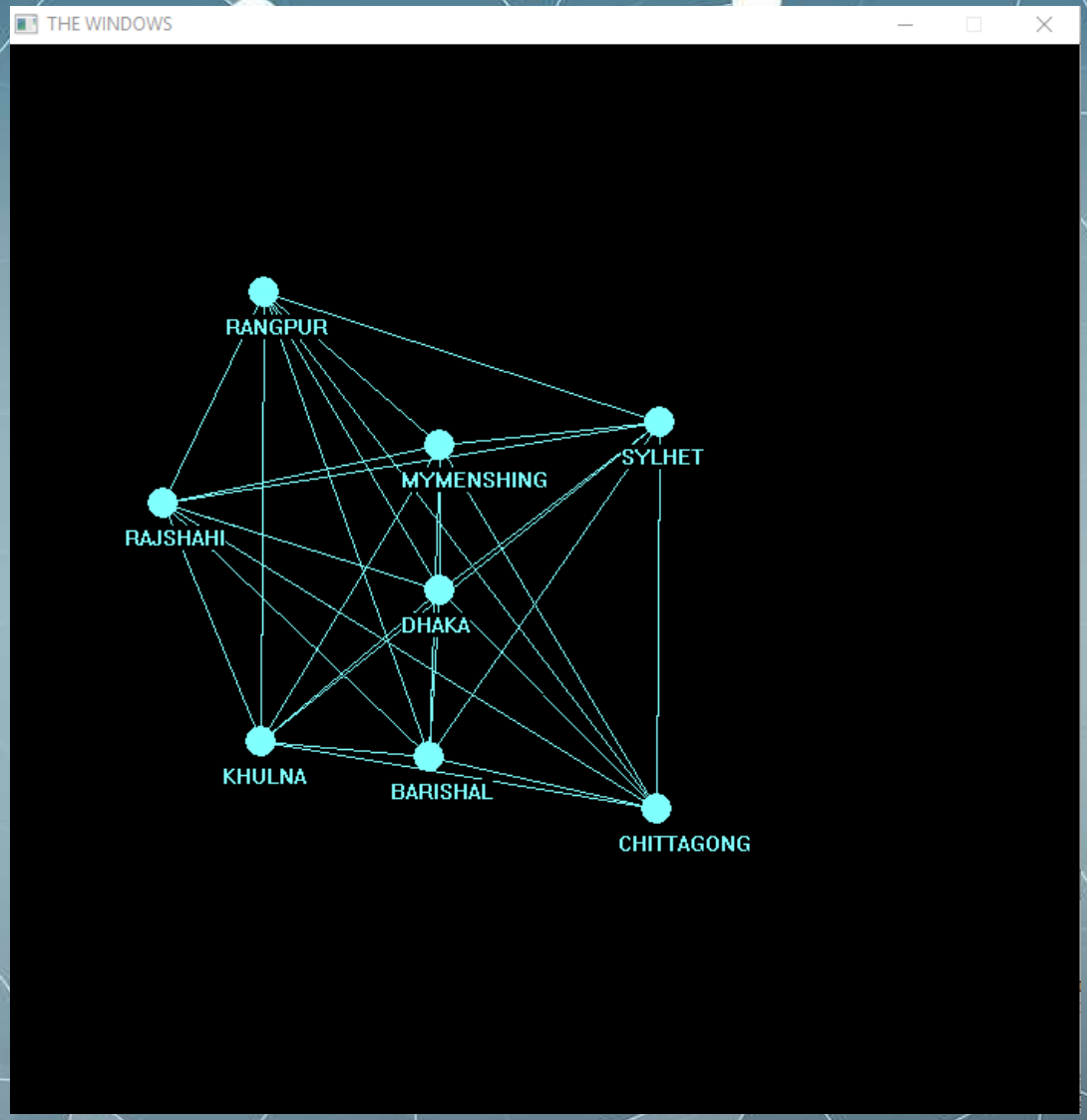
View the Locations:

This will show the list of locations from the given data.



View the Graph:

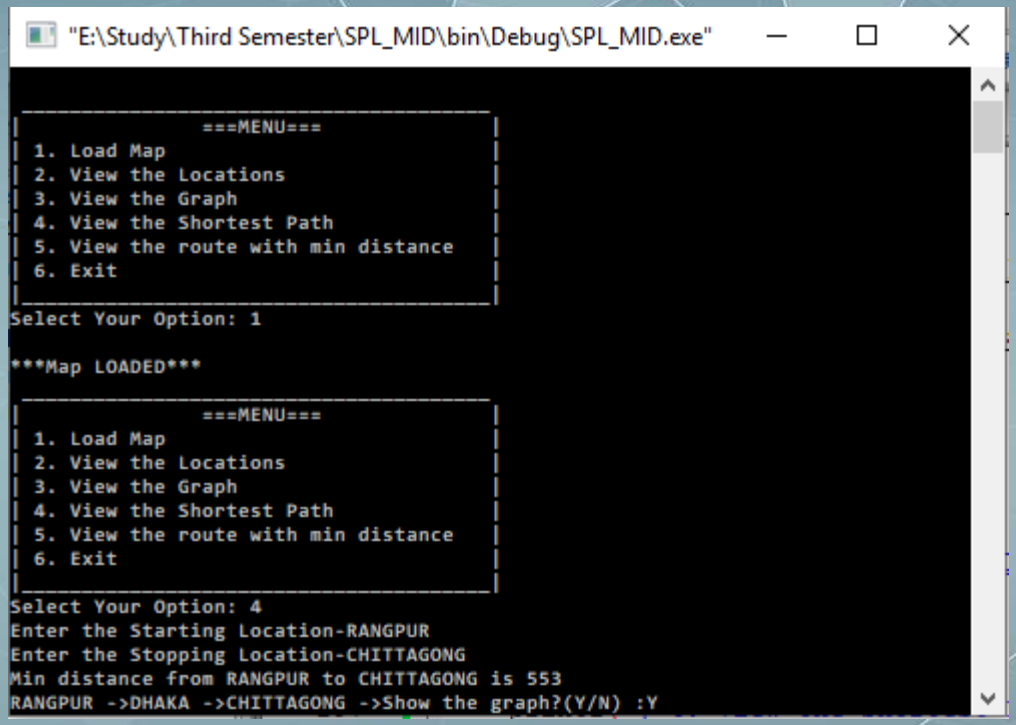
A visual representation of the map will be showed using the given co-ordinates with the help of graphics.h header file.



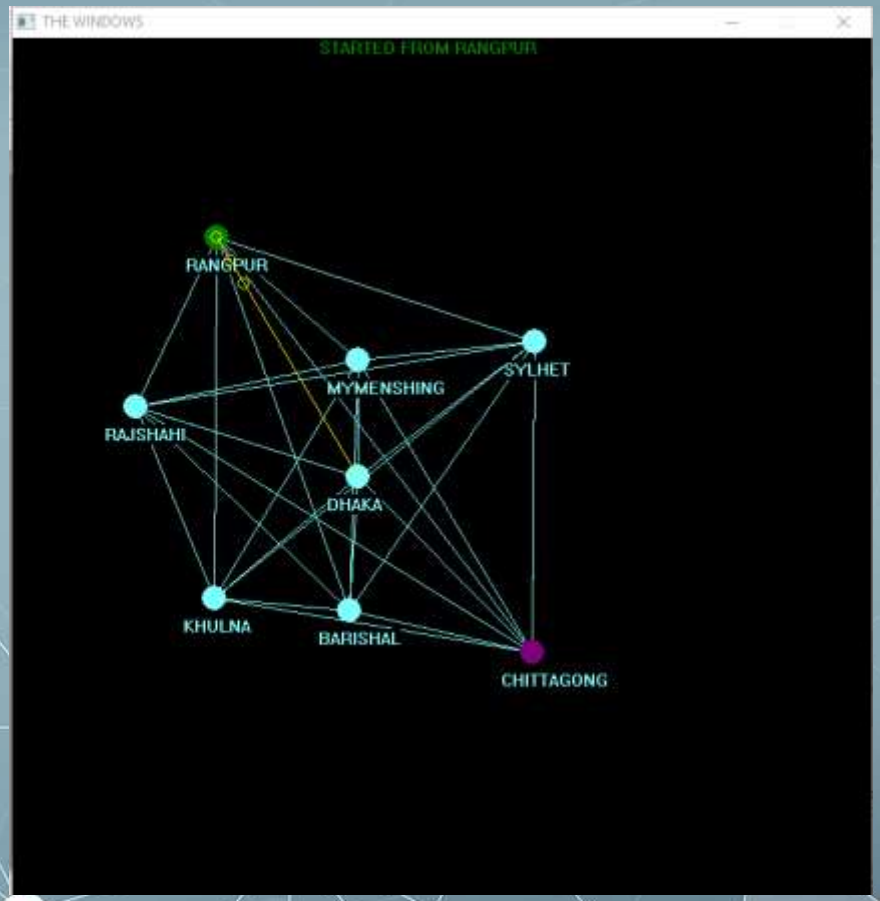
View the shortest path:

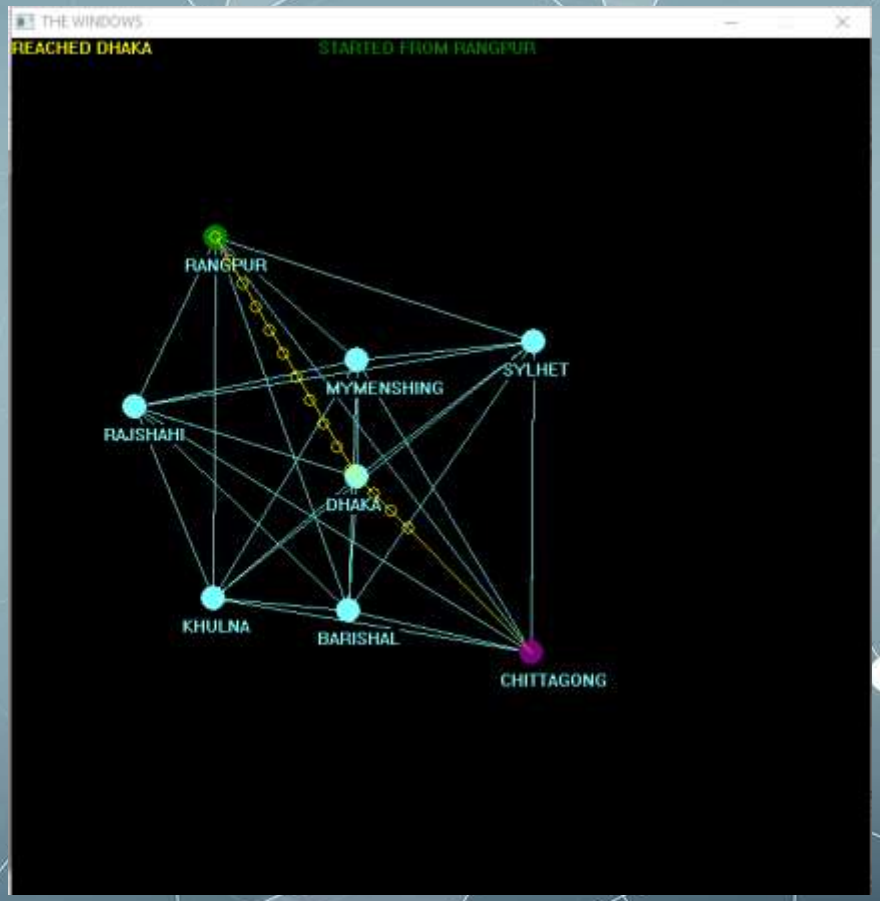
The user will be asked to input the source location and destination location. Then, Dijkstra's Algorithm will be applied and route will be shown to the user.

The user can visually see the route by entering 'Y'.

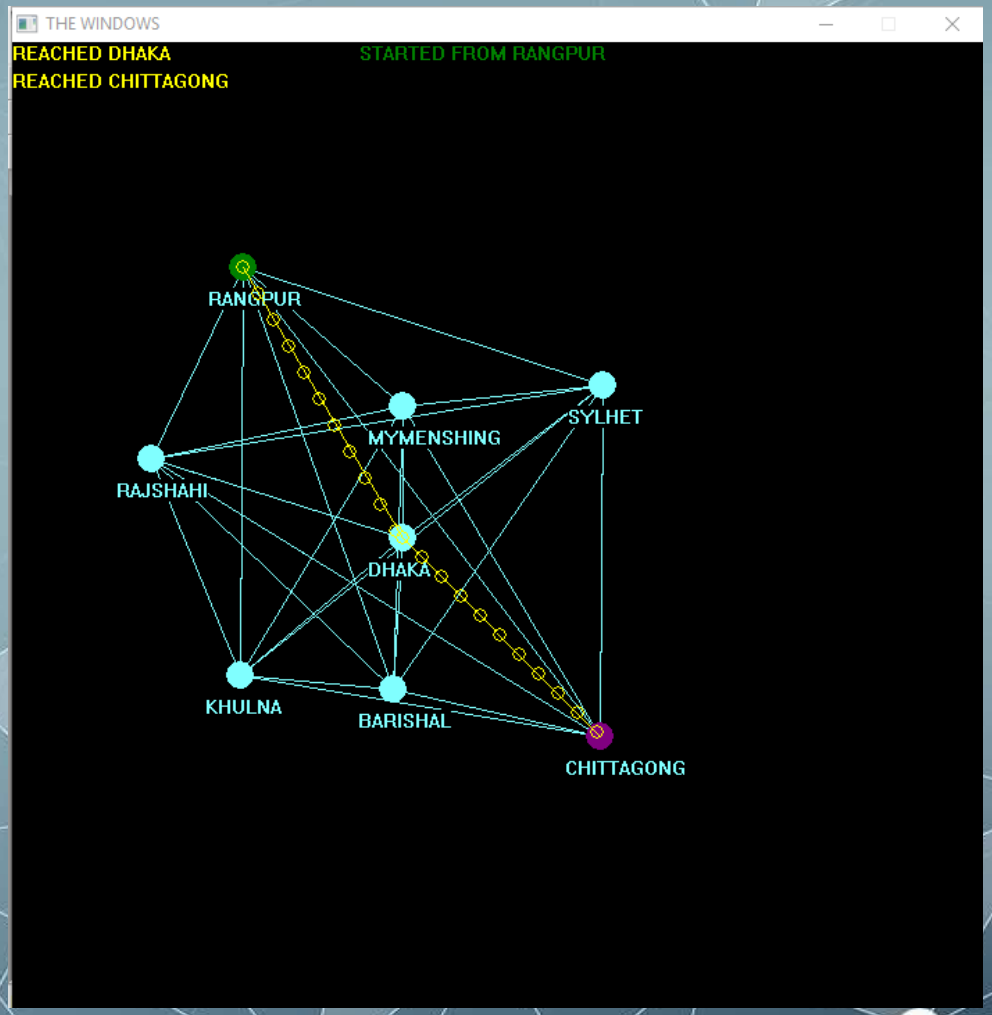


Visualization





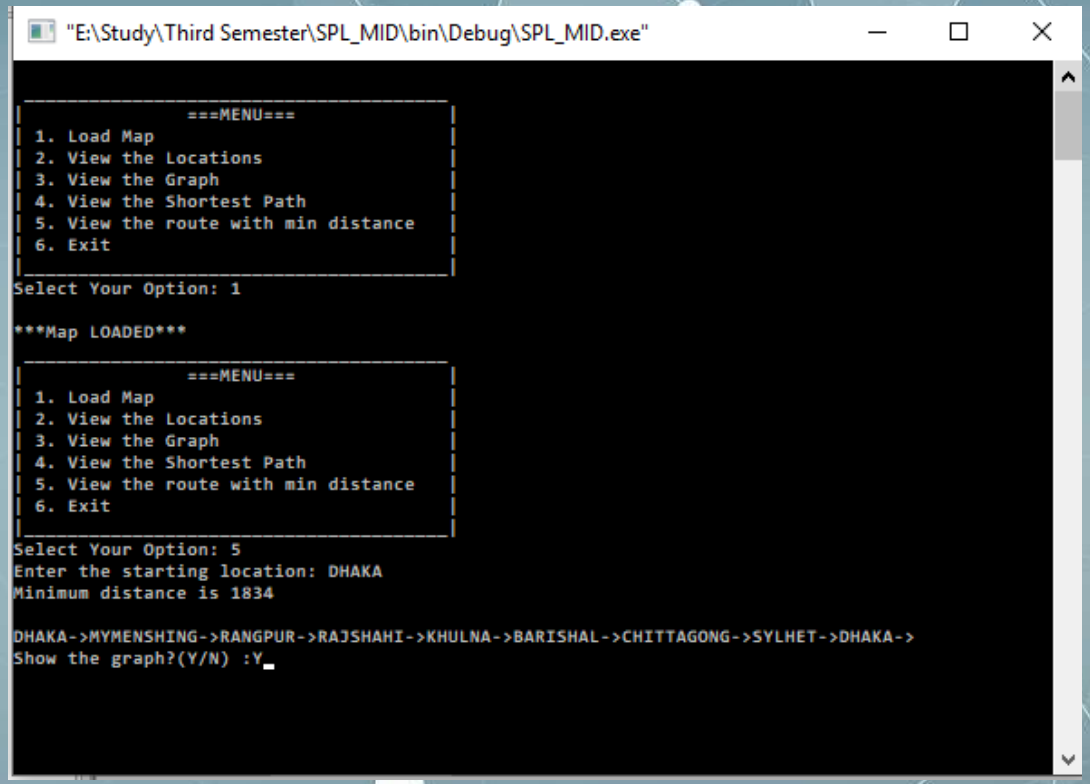
Visualization



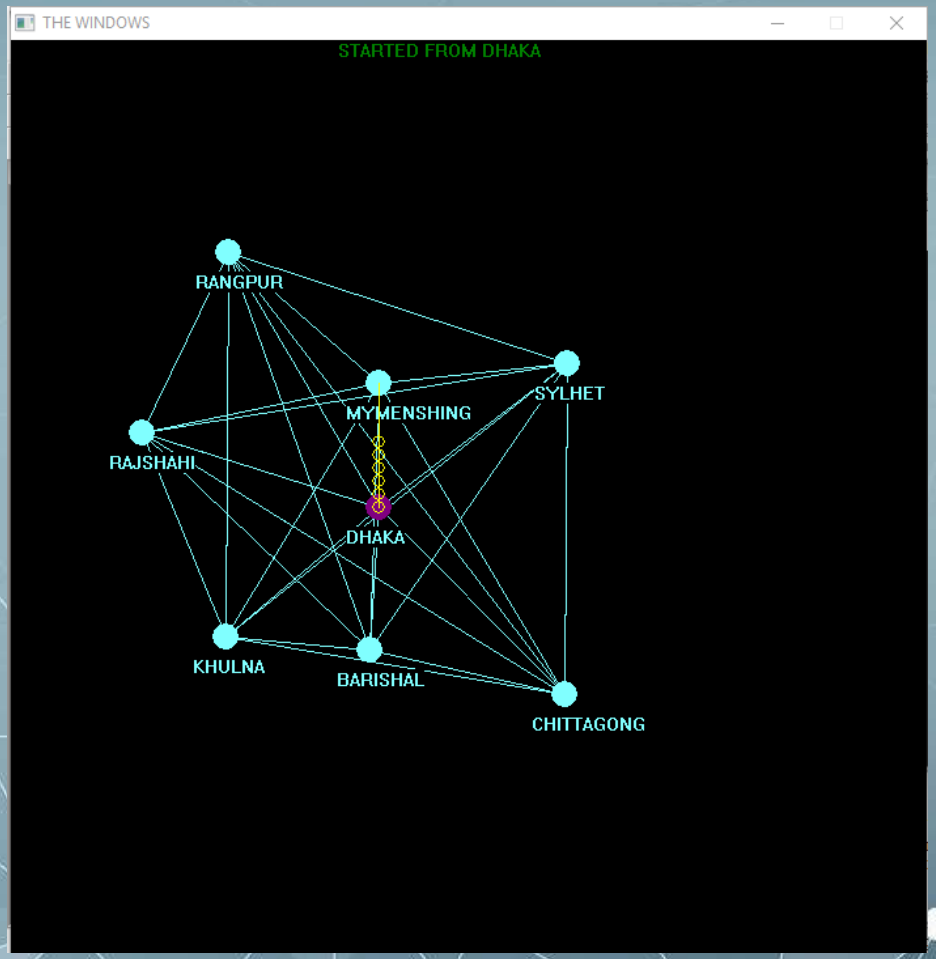
View route with minimum distance:

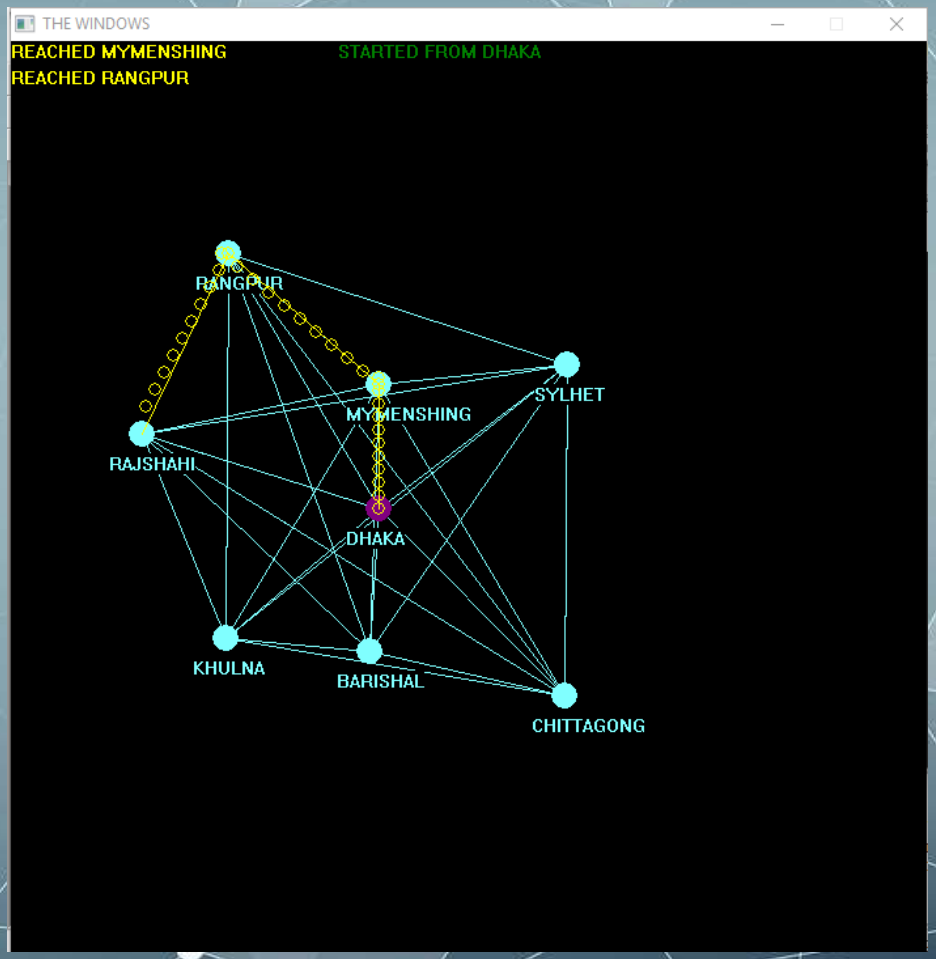
The user will be asked to input the source location. The problem is similar to the Travelling Salesperson Problem. So, Branch and Bound Algorithm will be applied to find the desired route.

The user can visually see the route by entering ‘Y’.

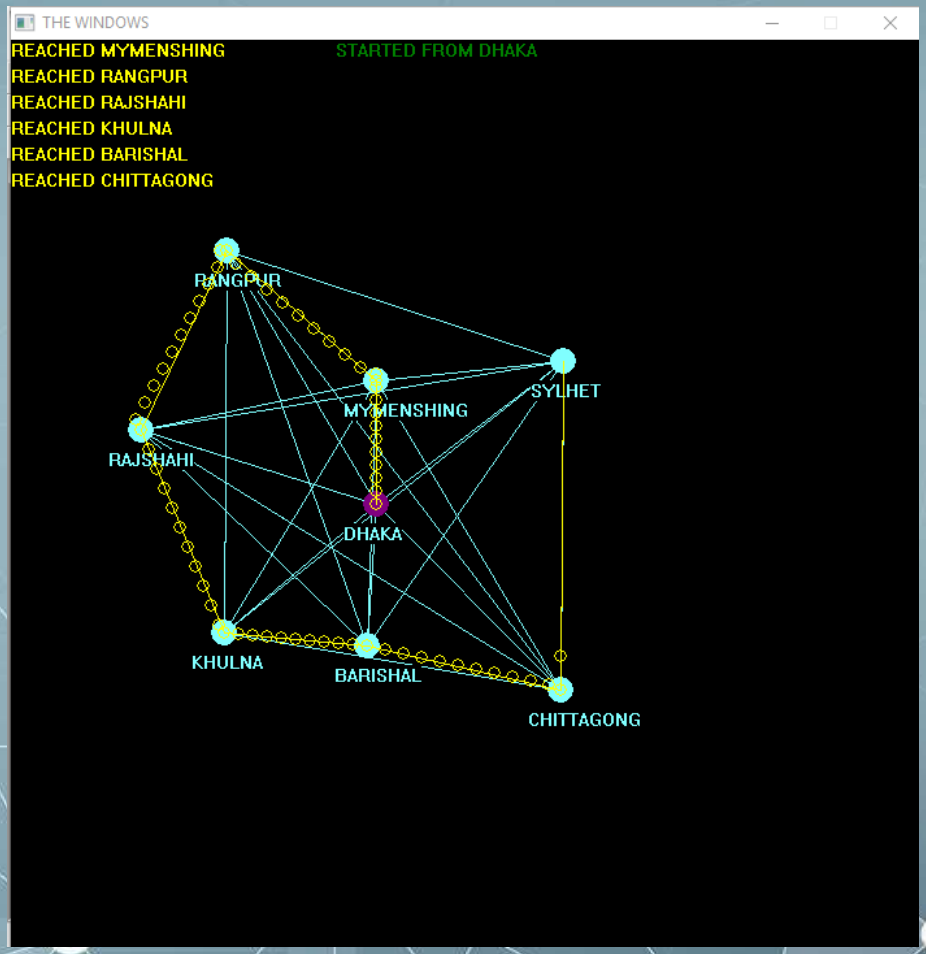


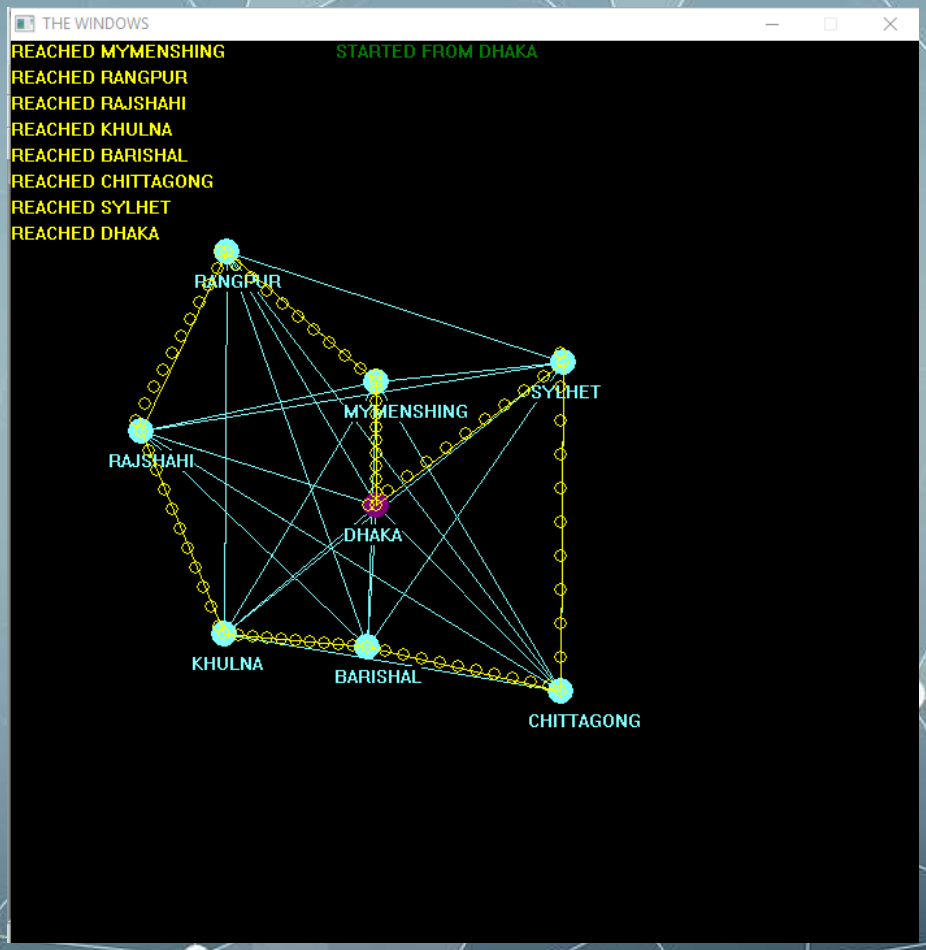
Visualization





Visualization





My GitHub Repository

https://github.com/redowansami/SPL-1

THANK YOU