

Final Project for CSC 450

Group Members: Meagan Kropp and Sydney Holland

Responsibilities:

Meagan: Helped create the Bellman Ford, distance vector algorithms, and reading csv file function

Sydney: Helped create the Dijkstra's algorithm.

Both did overall program/project help and debugging.

To run program:

Python routing.py topology-1.csv

Enter source node

Sample Output:

```
PS C:\Users\meaga\Documents\GitHub\csc450> python project.py topology-1.csv
Please, provide the source node: u
Shortest path tree for node u:
  u, uwv, uw, ux, uwvy, uwvyz
Costs of least-cost paths for node u:
  u:0, v:6, w:3, x:5, y:10, z:12

Distance vector for node u: 0, 6, 3, 5, 10, 12
Distance vector for node v: 6, 0, 3, 7, 4, 6
Distance vector for node w: 3, 3, 0, 4, 7, 9
Distance vector for node x: 5, 7, 4, 0, 7, 9
Distance vector for node y: 10, 4, 7, 7, 0, 2
Distance vector for node z: 12, 6, 9, 9, 2, 0
```

```
PS C:\Users\meaga\Documents\GitHub\csc450> python project.py topology-2.csv
Please, provide the source node: x
Shortest path tree for node x:
  x, xy, xyz
Costs of least-cost paths for node x:
  x:0, y:2, z:3

Distance vector for node x: 0, 2, 3
Distance vector for node y: 2, 0, 1
Distance vector for node z: 3, 1, 0
```