

CS3093D: Networks Laboratory

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B180462CS

Experiment - 05 Snapshots

There are two source code files in the folder B180462CS_Exp5, namely

1. q1_distanceVector.c
2. q2_linkState.c

which contains the C code implementation of

1. Distance Vector Routing (DVR) algorithm using Bellman-Ford
 2. Link State Algorithm using Dijkstra's
- respectively.

Open a terminal in this folder.

Compile the first program using the following command:

```
gcc q1_distanceVector.c -o q1
```

Run the executable file using the command :

```
./q1
```

For both the programs enter input in the following format :

Input :

```
n m
u1 v1 w1
.
.
um vm wm
```

‘n’ is the number of nodes and ‘m’ is the number of links.

Each edge i is described in its own line where u_i and v_i are the source and destination vertices respectively. (w_i is the weight for the i -th link)

```
Exp 5 — -bash — 69x31
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$ gcc q1_distanceVector.c -o q1
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$ ./q1
4 5
0 1 2
0 3 1
1 2 3
1 3 7
2 3 11
Distance Vector Routing algorithm using Bellman-Ford executed

node 0
  distance vector = [ 0 2 5 1 ]
  predecessor vector = [ -1 0 1 0 ]

node 1
  distance vector = [ 2 0 3 3 ]
  predecessor vector = [ 1 -1 1 0 ]

node 2
  distance vector = [ 5 3 0 6 ]
  predecessor vector = [ 1 2 -1 0 ]

node 3
  distance vector = [ 1 3 6 0 ]
  predecessor vector = [ 3 0 1 -1 ]
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$
```

Compile the second program using the following command:

gcc q2_linkState.c -o q2

Run the executable file using the command :

`./q2`

```
Exp 5 — -bash — 64x33
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$ gcc q2_linkState.c -o q2
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$ ./q2
4 5
0 1 2
0 3 1
1 2 3
1 3 7
2 3 11
Link State Algorithm using Dijkstra's executed

node 0
  distance vector = [ 0 2 5 1 ]
  predecessor vector = [ -1 0 1 0 ]

node 1
  distance vector = [ 2 0 3 3 ]
  predecessor vector = [ 1 -1 1 0 ]

node 2
  distance vector = [ 5 3 0 6 ]
  predecessor vector = [ 1 2 -1 0 ]

node 3
  distance vector = [ 1 3 6 0 ]
  predecessor vector = [ 3 0 1 -1 ]
Jessiyas-MacBook-Pro:Exp 5 jessiyajoy$
```