

# CS3093D Networks Laboratory - Assignment 5

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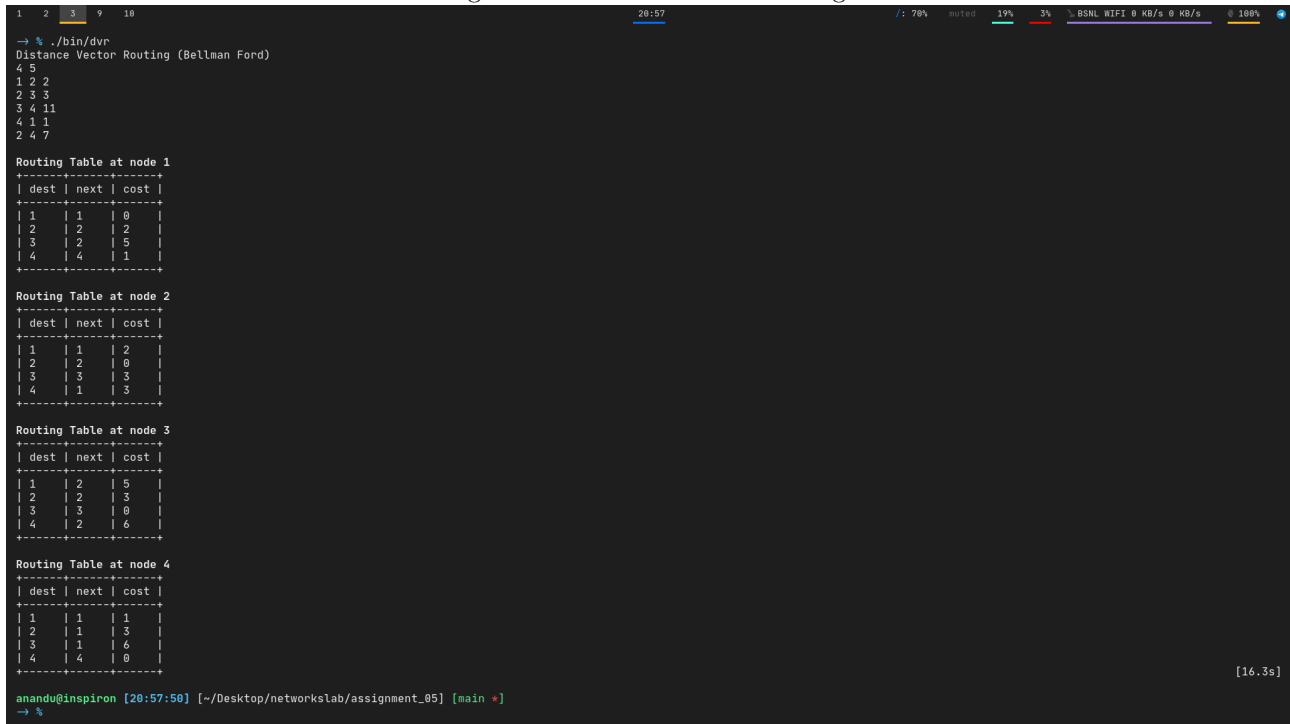
## Distance Vector Routing

### Instructions

- Code can be compiled using 'gcc src/dvr.c'
- Takes input as mentioned in question and routing table at all nodes is printed

### Screenshots

Figure 1: Distance Vector Routing



```
1 2 3 9 10
→ % ./bin/dvr
Distance Vector Routing (Bellman Ford)
4 5
1 2 2
2 3 3
3 4 11
4 1 1
2 4 7

Routing Table at node 1
+-----+
| dest | next | cost |
+-----+
| 1 | 1 | 0 |
| 2 | 2 | 2 |
| 3 | 2 | 5 |
| 4 | 4 | 1 |
+-----+

Routing Table at node 2
+-----+
| dest | next | cost |
+-----+
| 1 | 1 | 2 |
| 2 | 2 | 0 |
| 3 | 3 | 3 |
| 4 | 1 | 3 |
+-----+

Routing Table at node 3
+-----+
| dest | next | cost |
+-----+
| 1 | 2 | 5 |
| 2 | 2 | 3 |
| 3 | 3 | 0 |
| 4 | 2 | 6 |
+-----+

Routing Table at node 4
+-----+
| dest | next | cost |
+-----+
| 1 | 1 | 1 |
| 2 | 1 | 3 |
| 3 | 1 | 6 |
| 4 | 4 | 0 |
+-----+

anandu@inspiron [20:57:50] [~/Desktop/networkslab/assignment_05] [main *]
→ %
```

# Link State Routing

## Instructions

- Code can be compiled by using 'gcc src/lsrc.c'
- Takes input as mentioned in question and path to each destination node is printed from all nodes.

## Screenshots

Figure 2: Link State Routing

```
1 2 3 9 10
→ % ./bin/lsrc
Link State Routing ⇒ Dijkstra
4 5
1 2 2
2 3 3
3 4 11
4 1 1
2 4 7

LSR at node 1
+-----+-----+
| path | cost |
+-----+-----+
| 1→1 | 0 |
| 1→2 | 2 |
| 1→2→3 | 5 |
| 1→4 | 1 |
+-----+-----+

LSR at node 2
+-----+-----+
| path | cost |
+-----+-----+
| 2→1 | 2 |
| 2→2 | 0 |
| 2→3 | 3 |
| 2→1→4 | 3 |
+-----+-----+

LSR at node 3
+-----+-----+
| path | cost |
+-----+-----+
| 3→2→1 | 5 |
| 3→2 | 3 |
| 3→3 | 0 |
| 3→2→1→4 | 6 |
+-----+-----+

LSR at node 4
+-----+-----+
| path | cost |
+-----+-----+
| 4→1 | 1 |
| 4→1→2 | 3 |
| 4→1→2→3 | 6 |
| 4→4 | 0 |
+-----+-----+

anandu@inspiron [20:56:23] [~/Desktop/networkslab/assignment_05] [main]
→ %
```