

# LAB 5 : OSPF

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This report shows the routing tables for two different input topologies each with 8 nodes and at least 20 links.

Given an input in form :

Number of nodes, Number of links

Next L lines each containing 2 nodes indicating link and min and max of the cost of that link.

I have added just the first routing table(time = 20) for each node of input, you can check more routing tables in the folder input1/2 in the corresponding output files

## Input Topology 1:

The input graph in this case has 8 nodes and 20 links.

Input:

8 20

0 1 1 10

0 2 1 10

0 3 1 10

0 4 1 10

0 5 1 10

0 6 1 10

0 7 1 10

1 7 1 10

2 6 1 10

2 5 1 10

6 7 1 10

5 4 1 10

3 4 1 10

5 6 1 10

2 7 1 10

4 6 1 10

1 5 1 10

1 3 1 10

2 4 1 10

Routing table for router 0:

Routing Table for Node No. 0 at Time 20		
Destination	Cost	Path
1	8	0-1
2	4	0-2
3	8	0-3
4	8	0-4
5	8	0-5
6	6	0-2-6
7	7	0-7

Routing table for router 1:

Routing Table for Node No. 1 at Time 20		
Destination	Cost	Path
0	3	1-0
2	7	1-0-2
3	4	1-3
4	9	1-5-4
5	5	1-5
6	8	1-0-6
7	5	1-0-7

Routing table for router 2:

Routing Table for Node No. 2 at Time 20		
Destination	Cost	Path
0	8	2-0
1	11	2-4-5-1
3	8	2-4-3
4	2	2-4
5	6	2-4-5

6	4	2-6
7	7	2-7
-----		

Routing table for router 3:

-----		
Routing Table for Node No. 3 at Time 20		
-----		
Destination	Cost	Path
-----		
0	10	3-0
1	10	3-1
2	17	3-4-6-2
4	8	3-4
5	12	3-4-5
6	13	3-4-6
7	12	3-0-7
-----		

Routing table for router 4:

-----		
Routing Table for Node No. 4 at Time 20		
-----		
Destination	Cost	Path
-----		
0	7	4-6-0
1	6	4-5-1
2	6	4-6-2
3	8	4-3
5	1	4-5
6	2	4-6
7	9	4-6-0-7
-----		

Routing table for router 5:

-----		
Routing Table for Node No. 5 at Time 20		
-----		
Destination	Cost	Path
-----		
0	5	5-1-0

1	2	5-1
2	7	5-4-6-2
3	9	5-4-3
4	1	5-4
6	3	5-4-6
7	6	5-1-7

Routing table for router 6:

Routing Table for Node No. 6 at Time 20		
Destination	Cost	Path
0	8	6-0
1	5	6-4-5-1
2	8	6-2
3	10	6-4-3
4	2	6-4
5	3	6-4-5
7	9	6-4-5-1-7

Routing table for router 7:

Routing Table for Node No. 7 at Time 20		
Destination	Cost	Path
0	5	7-1-5-0
1	2	7-1
2	9	7-2
3	10	7-1-5-0-3
4	5	7-1-5-4
5	4	7-1-5
6	7	7-6

## Input Topology 2:

The input graph is a complete graph in this case with 8 nodes and 28 links.

Input :

```
8 28
0 1 3 9
0 2 2 8
0 3 4 7
0 4 2 8
0 5 3 9
0 6 2 8
0 7 4 8
1 2 2 9
1 3 2 7
1 4 3 9
1 5 3 9
1 6 2 9
1 7 2 8
2 3 1 9
2 4 3 10
2 5 4 10
2 6 2 10
2 7 4 7
3 4 5 6
3 5 3 9
3 6 2 8
3 7 3 8
4 5 1 10
4 6 3 9
4 7 1 9
5 6 4 8
5 7 5 7
6 7 6 10
```

Routing table for router 0:

-----			
Routing Table for Node No. 0 at Time 20			
-----			
Destination	Cost	Path	
-----			
1	4	0-1	
2	3	0-2	
3	6	0-3	
4	3	0-4	

5	6	0-5
6	4	0-6
7	4	0-7
-----		

Routing table for router 1:

-----		
Routing Table for Node No. 1 at Time 20		
-----		
Destination	Cost	Path
-----		
0	6	1-4-0
2	5	1-2
3	5	1-3
4	3	1-4
5	4	1-5
6	8	1-6
7	6	1-4-7
-----		

Routing table for router 2:

-----		
Routing Table for Node No. 2 at Time 20		
-----		
Destination	Cost	Path
-----		
0	4	2-0
1	5	2-1
3	8	2-6-3
4	7	2-0-4
5	7	2-5
6	3	2-6
7	4	2-7
-----		

Routing table for router 3:

-----		
Routing Table for Node No. 3 at Time 20		
-----		
Destination	Cost	Path
-----		

0	6	3-0
1	4	3-1
2	6	3-1-2
4	5	3-4
5	8	3-1-5
6	5	3-6
7	6	3-7

Routing table for router 4:

Routing Table for Node No. 4 at Time 20		
Destination	Cost	Path
0	6	4-0
1	5	4-1
2	6	4-6-2
3	5	4-3
5	6	4-5
6	3	4-6
7	7	4-7

Routing table for router 5:

Routing Table for Node No. 5 at Time 20		
Destination	Cost	Path
0	5	5-0
1	6	5-2-1
2	4	5-2
3	5	5-3
4	6	5-4
6	7	5-6
7	7	5-7

Routing table for router 6:

Routing Table for Node No. 6 at Time 20		
Destination	Cost	Path
0	4	6-0
1	2	6-1
2	4	6-1-2
3	2	6-3
4	6	6-4
5	6	6-5
7	7	6-7

Routing table for router 7:

Routing Table for Node No. 7 at Time 20		
Destination	Cost	Path
0	5	7-0
1	6	7-2-1
2	4	7-2
3	4	7-3
4	7	7-4
5	7	7-5
6	6	7-3-6