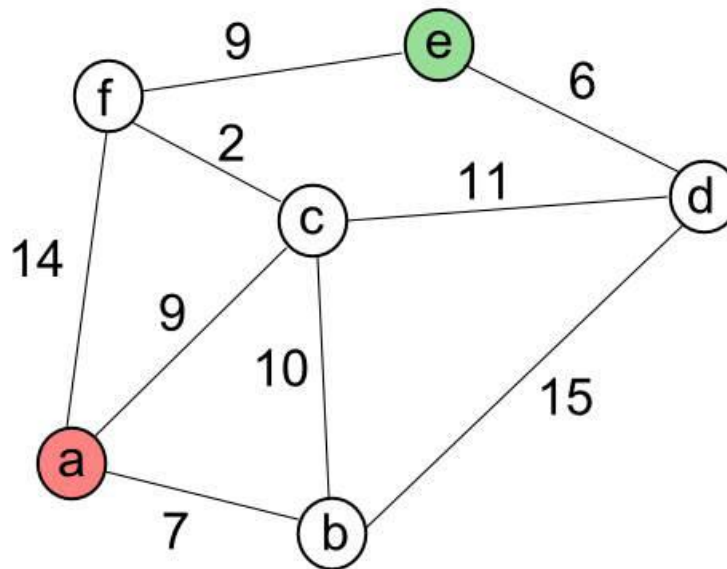


Assignment : Dijkstra's Algorithm
Computer Networking
Tanmay Dureja (td1391)

1. Given the network as shown below calculate the shortest path from node **a** to all other paths.



Step #	Node Set	Node b	Node c	Node d	Node e	Node f
0	a	7	9	∞	∞	14
1	a, b	7	9	22	∞	14
2	a, b, c	7	9	20	∞	11
3	a, b, c, f	7	9	20	20	11
4	a, b, c, f, e	7	9	20	20	11

- a, b, c, f, e, d
- (a, b) – 7
- (a, c) – 9
- (a, d) – (a, c) \rightarrow (c, d) – 20
- (a, e) – (a, c) \rightarrow (c, f) \rightarrow (f, e) – 20
- (a, f) – (a, c) \rightarrow (c, f) – 11

2. Given the network as shown below calculate the shortest path from node **e** to all other paths.

Step #	Node Set	Node a	Node b	Node c	Node d	Node f
0	e	∞	∞	∞	6	9
1	e, d	∞	21	17	6	9
2	e, d, f	23	21	11	6	9
3	e, d, f, c	20	21	11	6	9
4	e, d, f, c, a	20	21	11	6	9

- e, d, f, c, a, b
- (e, f) – 9
- (e, d) – 6
- (e, c) – (e, f) \rightarrow (f, c) – 11
- (e, b) – (e, f) \rightarrow (f, c) \rightarrow (c, b) – 21
- (e, a) – (e, f) \rightarrow (f, c) \rightarrow (c, a) – 20