Distance Vector Routing Algorithm

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Distance Vector Routing Algorithm

- Dynamic Routing Algorithm

- Finds the least cost path to reach the destination.

- Each router maintains a routing table

  - One entry for each router.

  - Routing Table Size - directly proportional to the No.of routers in the network.

- Also called as Belman-Ford or Ford Fulkerson algorithms.

- Introduced in 1957 - Revised in 1962.

- Used in the internet in the earlier days, but , not now.

 - Why ?

All About DV Routing Algorithm

- The router contains an entry per router in the routing table

    - **Distance** to reach the the routers

    - Distance is maintained as a Vector, Hence Distance Vector Routing Algorithm

    - Distance - Queue length, physical distance, delay…

    - Hence, also called as Routing Information Protocol (RIP).

    - Initially, cost will be estimated, then will be converged to final cost.

- Each router exchanges its routing table to its neighbors at regular intervals.

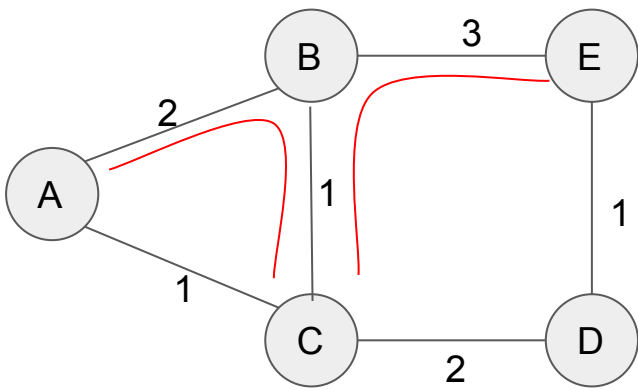| Neighbor	Cost

Routing Table Structure
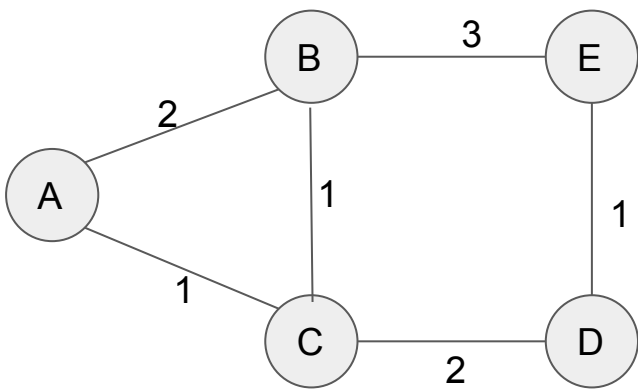
C Rout. Tab	
A	1
B	1
D	2
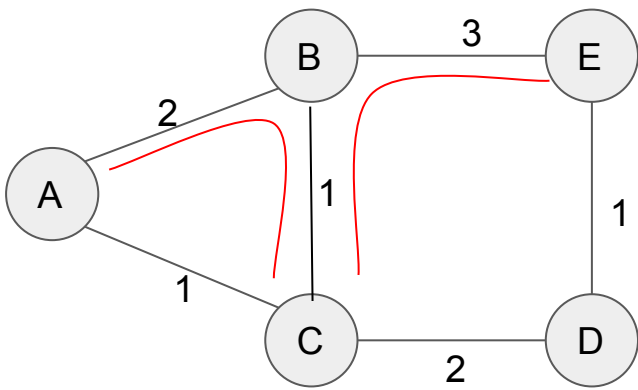
C Rout. Tab	
A	1
B	1
D	2

B Rout. Tab	
A	2
E	3
C	1

C -> B -> A = 1 + 2 = 3

C -> B -> E = 1 + 3 = 4

C Rout. Tab	
A	1
B	1
D	2
E	4

B Rout. Tab	
A	2
E	3
C	1

C - > B - > A = 1 + 2 = 3 No Changes will be done for C - > A as 3 > 1

C - > B - > E = 1 + 3 = 4 A New Entry will be made for E
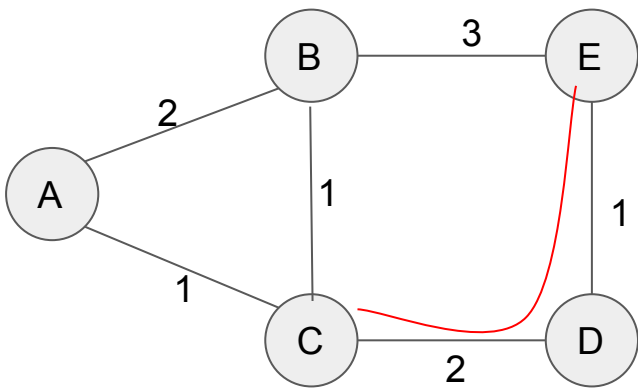
C Rout. Tab

A	1
B	1
D	2
E	4

B Rout. Tab

A	2
E	3
C	1

D Rout. Tab

E	1
C	2
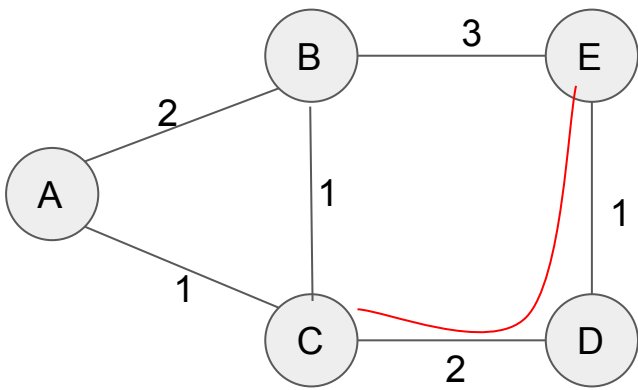
C -> D -> E = 2 + 1 = 3

C Rout. Tab

A	1
B	1
D	2
E	~~4~~ 3

B Rout. Tab

A	2
E	3
C	1

D Rout. Tab

E	1
C	2

C - > D - > E = 2 + 1 = 3

Entry for E is changed to 3;

3 < 4 , smaller cost to reach E