Dijkstra's algorithm:
(shortest path).
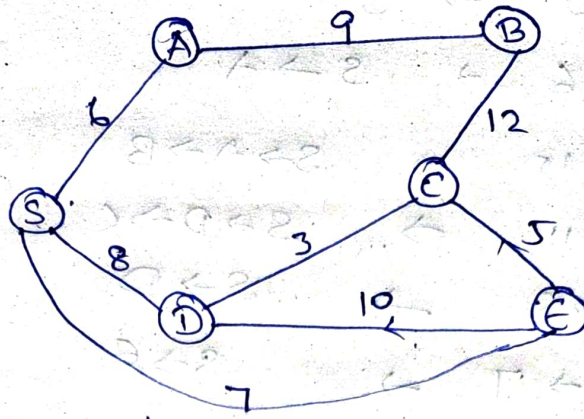
step 1:- Make source node 0 (S) & all other (∞) infinity.

S	A	B	C	D	E
0	∞	∞	∞	∞	∞

'S' is Completed 0-0.

step 2:- starts from source and check with least weights. A is least. A=6. L∞

S	A	B	C	D	E
0	6	∞	∞	8	7

Step 3:- Now from S, A done check next as SA → B is 6+9 =15. Now. B =15. <∞

S	A	B	C	D	E
0	6	15	∞	8	7

Step 4:- Next small node. (E=7). CE → E is, 5+7 =12. and DE → E is. 10+7=17.

Step 5:

S	A	B	C	D	E
0	6	15	12	8	7

step 5:- CD = 8+3 =11 update C with 11.

S	A	B	C	D	E
0	6	15	11	8	7

The shortest distance from S is.

                  path

$S \to 0 \to S$.

$A \to 6 \to S \to A$

$B \to 15 \to S \to A \to B$

$C \to 11 \to S \to D \to C$

$D \to 8 \to S \to D$.

$E \to 7 \to S \to E$.
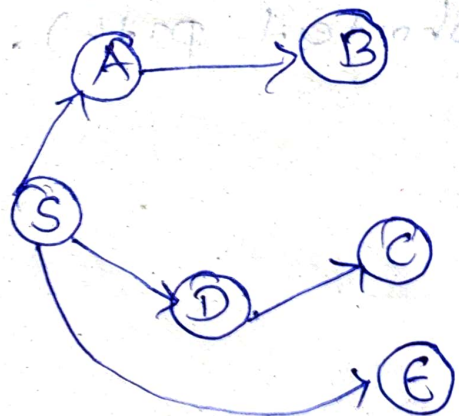
Nodes with path
Shortest distance.