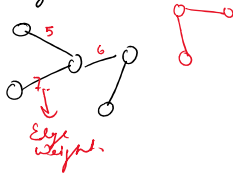
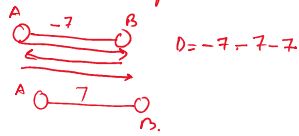


Dijkstra Algo - Graph → Nodes → Edges.

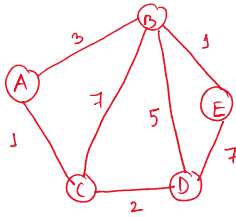
Src Node → Other nodes.  
Distance.



- ① Directed & Undirected Graph.
- ② Graph Connected.
- ③ Weighted Graph.
- ④ No Negative edges

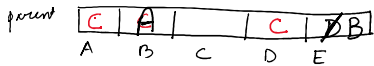
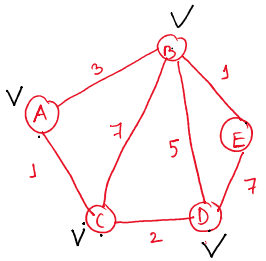


Dijkstra - distance of every other node from a single source.



Source = C

Node C → A  
C → D  
C → B  
C → E } Min<sup>m</sup> Distance.



Selected Node.	Distance of nodes from src=C.				
	A	B	C	D	E
C	∞	∞	0	∞	∞
A	1	7	0	2	∞
D	1	4	0	2	∞
B	1	4	0	2	9
E	1	4	0	2	5

$d(\text{src to E}) = d(\text{src to B}) + d(\text{B to E})$   
 $= 2 + 7 = 9$

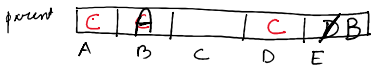
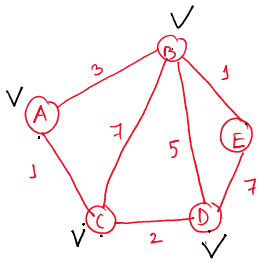
$$d(\text{src to A}) = d(\text{src to C}) + d(\text{C to A})$$

$$d(\text{src to B}) = d(\text{src to A}) + d(\text{A to B}) = 1 + 3 = 4$$

Bound E.

$$d(\text{src to B}) = d(\text{src to D}) + d(\text{D to B}) = 2 + 7 = 9$$

$$d(\text{src to E}) = d(\text{src to B}) + d(\text{B to E}) = 4 + 1 = 5$$



Selected Node.	Distance of nodes from src=C.				
	A	B	C	D	E
C	1	7	0	2	∞
A	1	4	0	2	∞
D	1	4	0	2	9
B	1	4	0	2	5
E	1	4	0	2	5

src = C, dest = E.

E → B → A → C (src).

src = C, dest = B.

B → A → C (src).