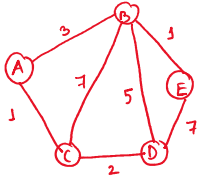


Dijkstra Algo -

Src Node \longrightarrow Other nodes.
distance.

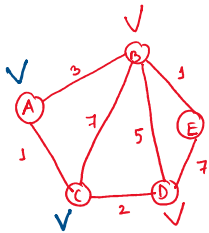
- ✓ ⊙ Directed & Undirected Graph.
- ✓ ⊙ Graph Connected.
- ⊙ Weighted Graph.
- ⊙ No Negative edges

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



Source = C

Node C \rightarrow A
C \rightarrow D
C \rightarrow B
C \rightarrow E } Min^m Distance



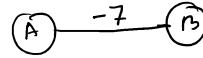
path array



CE path \Rightarrow E B A C



AB min^m distance = ?



$$\begin{aligned} AB &= -7 \\ BA &= -7 \\ AB &= -7 \\ \hline &= -21 \end{aligned}$$

u	v \longrightarrow				
	Distance of nodes from source C				
	A	B	C	D	E
Selected nodes	1	7	0	2	2
C	1	7	0	2	2
A		4		2	2
D		4			2
B					5

Source to E via B.

$$\begin{aligned} D(\text{src to E}) &= D(\text{src to B}) + D(\text{B to E}) \\ &= 4 + 1 \\ &= 5 \end{aligned}$$

When to update?

$$\begin{aligned} D(\text{src}, v) &> \\ D(\text{src}, u) + D(u, v) \end{aligned}$$