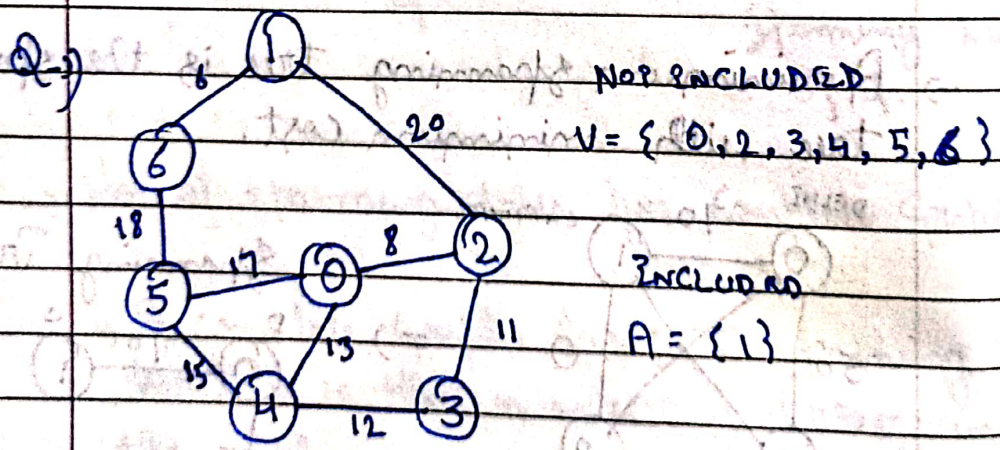
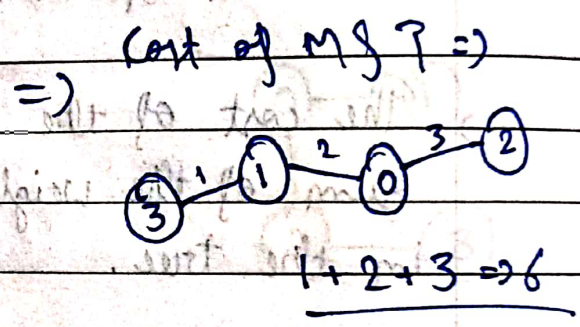
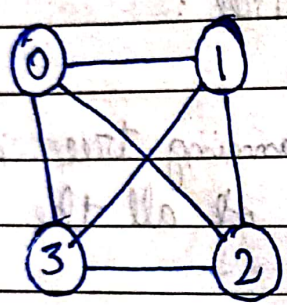

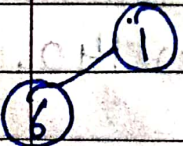


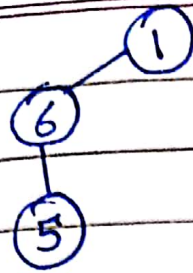
# Prims Algorithm

- Prim's Algorithm use greedy approach to find the minimum spanning tree.
- We start with any node and start creating a MST.
- In Prim's Algorithm we grow the spanning tree from a starting position until  $n-1$  edges are formed (or  $n$  nodes are covered)

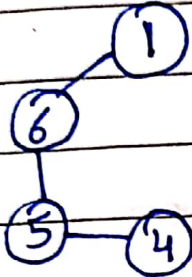


→ Using Prim's Algo.

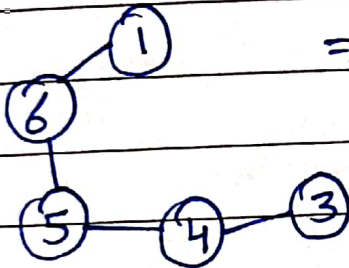
-   $\Rightarrow V = \{0, 2, 3, 4, 5, 6\} \quad A = \{1\}$
-   $\Rightarrow V = \{0, 2, 3, 4, 5\} \quad A = \{1, 6\}$



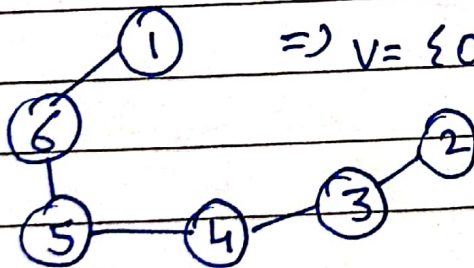
$$\Rightarrow V = \{0, 2, 3, 4\} \quad A = \{1, 5, 6\}$$



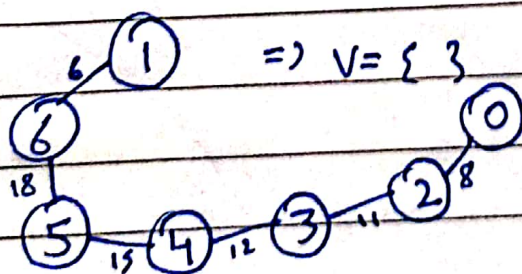
$$\Rightarrow V = \{0, 2, 3\} \quad A = \{1, 4, 5, 6\}$$



$$\Rightarrow V = \{0, 2\} \quad A = \{1, 3, 4, 5, 6\}$$



$$\Rightarrow V = \{0\} \quad A = \{1, 2, 3, 4, 5, 6\}$$



$$\Rightarrow V = \{3\} \quad A = \{0, 1, 2, 3, 4, 5, 6\}$$

$\therefore$  Prim's Algo Cost:

$$\Rightarrow 6 + 18 + 15 + 12 + 11 + 8$$

$$\Rightarrow \underline{\underline{70}}$$