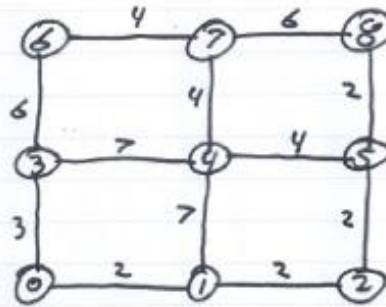


6-3

(6)



- Execute Prim-Jarník algorithm

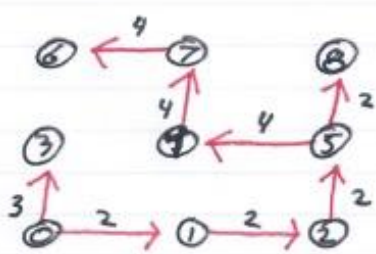
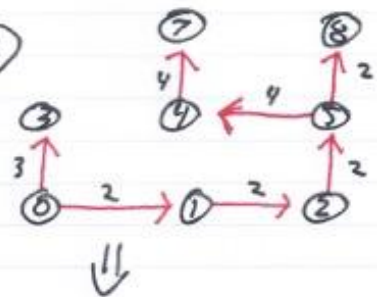
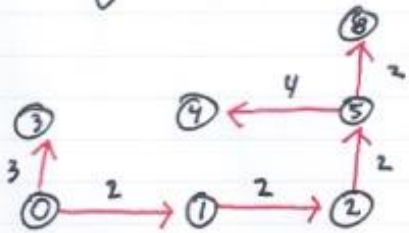
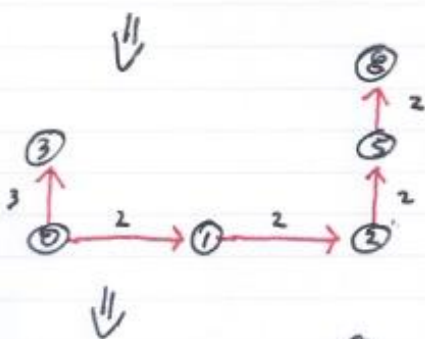
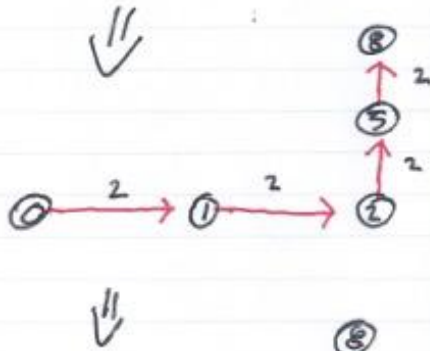
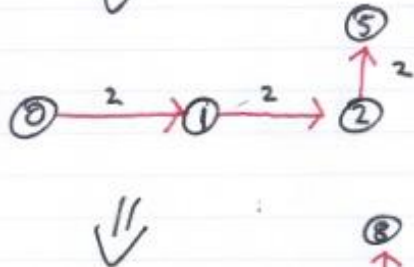
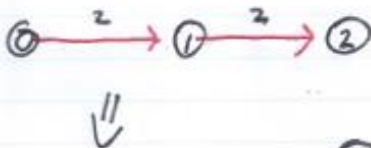
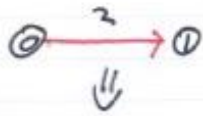
- we create the shortest path tree set

• this will keep track of the vertices included in the shortest path tree

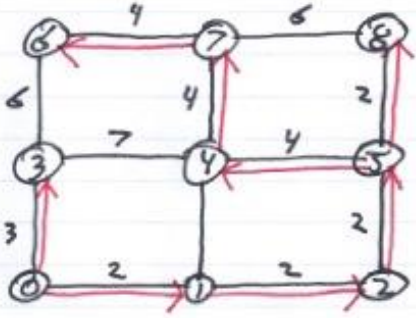
- we start at vertex 0 and we traverse through every time minimum edge from visited nodes.

- then  $0 \rightarrow 1$ , because minimum edge = 2 (weight = 2)
- then  $1 \rightarrow 2$ , because minimum edge = 2 (weight = 2)
- then  $2 \rightarrow 5$ , because minimum edge = 2 (weight = 2)
- then  $5 \rightarrow 8$ , because minimum edge = 2 (weight = 2)
- then  $0 \rightarrow 3$ , because minimum edge = 3 (weight = 3)
- then  $5 \rightarrow 4$ , because minimum edge = 4 (weight = 4)
- then  $4 \rightarrow 7$ , because minimum edge = 4 (weight = 4)
- then  $7 \rightarrow 6$ , because minimum edge = 4 (weight = 4)

- So, the minimum spanning tree weight = 23



Minimum Spanning tree of graph (a)



weight: 23