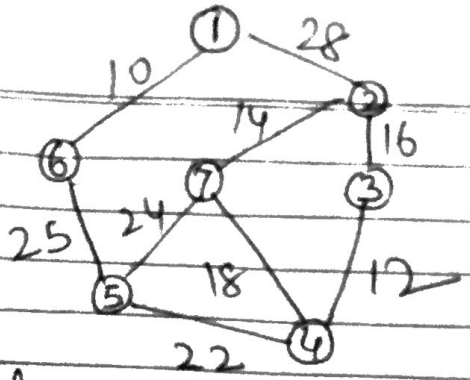
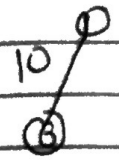
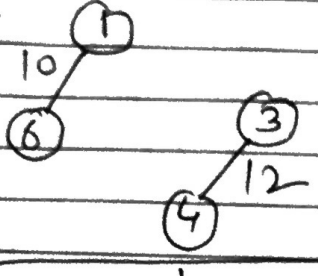
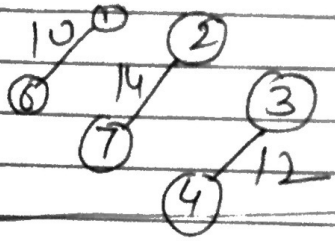
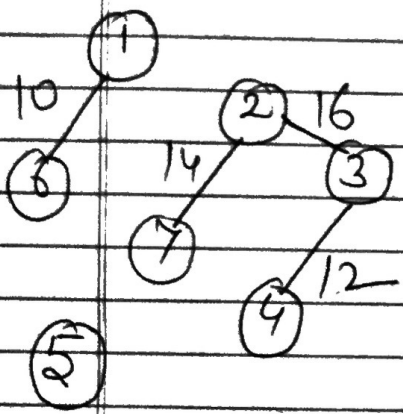


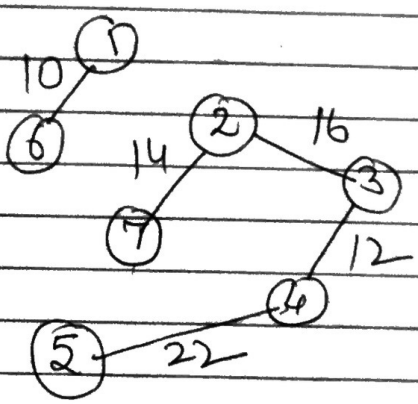
Kruskal's Algorithm:-

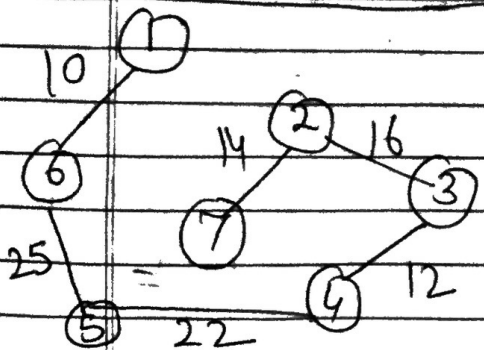












Minimum Cost Spanning Tree

Time Complexity:-

If Binary Heap (min heap) is used:

$O(E \log E)$

$E \rightarrow$ Edges

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Analysis of Kruskal's Algorithm

```
t := 0          // initially empty
                   Solution ⇒ of minimum
                   cost spanning tree

while ((t has less than n-1 edges)
        and
       (E ≠ 0)) do
                  → set of all edges
{
Choose an edge from E of lowest
cost

Delete this edge from E

if this edge does not make a cycle
in t then add it to t
otherwise discard it

}
```

negligible effect (due to use of sets representation)

$O(E)$

Binary Heap

$O(\log E)$

$\Rightarrow O(E \log E)$