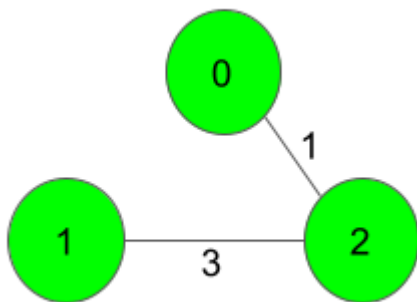
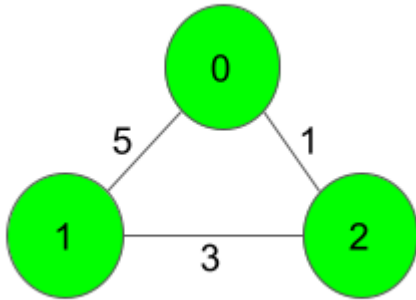


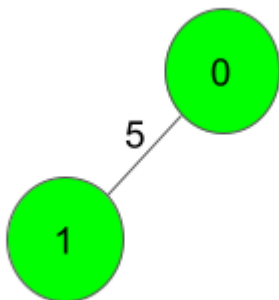
# Minimum Spanning Tree

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Given a weighted, undirected and connected graph of  $V$  vertices and  $E$  edges. The task is to find the sum of weights of the edges of the Minimum Spanning Tree.



The Spanning Tree resulting in a weight of 4 is shown above.



Output:

5

Explanation:

Only one Spanning Tree is possible which has a weight of 5.

```
import heapq
class Solution:

    #Function to find sum of weights of edges of the Minimum Spanning
Tree.
    def spanningTree(self, V, adj):
        #code here
        visited = [False]*V
        cost = 0
        queue = []
        heapq.heappush(queue, (-1,0))

        while len(queue):
            wt,node = heapq.heappop(queue)
            if visited[node]==True:
                continue
            visited[node] = True
            if wt!=-1:
                cost = cost+wt
            for nbr in adj[node]:
                tempNode,weight = nbr
                if visited[tempNode]==False:
                    heapq.heappush(queue, (weight,tempNode))
        return cost
```