

```
...
```

```
Time complexity:  $O(E * \log(E))$ 
```

```
Space complexity:  $O(V + E)$ 
```

```
where E is the number of edges in the graph and
```

```
V is the number of vertices in the graph
```

```
...
```

```
class Edge:
```

```
    def __init__(self,src,dest,wt):
```

```
        self.src = src
```

```
        self.dest = dest
```

```
        self.wt = wt
```

```
def getParent(v,parent):
```

```
    if v == parent[v]:
```

```
        return v
```

```
    return getParent(parent[v],parent)
```

```
def kruskal(edges,n,E):
```

```
    edges = sorted(edges,key = lambda edge:edge.wt)
```

```
    output = []
```

```
    parent = [i for i in range(n)]
```

```
    count = 0
```

```
    i = 0
```

```
    while count < (n-1):
```

```
        currentEdge = edges[i]
```

```
        srcParent = getParent(currentEdge.src,parent)
```

```
        destParent = getParent(currentEdge.dest,parent)
```

```
        if srcParent != destParent:
```

```
            output.append(currentEdge)
```

```
            count+=1
```

```
            parent[srcParent] = destParent
```

```
            i+=1
```

```
    return output
```

```
li = [int(ele) for ele in input().split()]
```

```
n = li[0]
```

```
E = li[1]
```

```
edges = []
```

```
for i in range(E):
```

```
    curr_input = [int(ele) for ele in input().split()]
```

```
    src = curr_input[0]
```

```
    dest = curr_input[1]
```

```
    wt = curr_input[2]
```

```
    edge = Edge(src,dest,wt)
```

```
    edges.append(edge)
```

```
output = kruskal(edges,n,E)
for ele in output:
    if(ele.src < ele.dest):
        print(str(ele.src) + " " + str(ele.dest) + " " + str(ele.wt))
    else:
        print(str(ele.dest) + " " + str(ele.src) + " " + str(ele.wt))
```