

Import heapq

Class Graph:

```
Def __init__(self):
```

```
    Self.graph={}
```

```
Def add_edge(self,u,v,weight):
```

```
    If u not in self.graph:
```

```
        Self.graph[u]=[]
```

```
    If v not in self.graph:
```

```
        Self.graph[v]=[]
```

```
    Self.graph[u].append((v,weight))
```

```
    Self.graph[v].append((u,weight))
```

```
Def prim_mst(self):
```

```
    Mst=[]
```

```
    Visited=set()
```

```
    Start_node=list(self.graph.keys())[0]
```

```
    Visited.add(start_node)
```

```
    Edges=[(cost,start_node,neighbor)for neighbor,cost in self.graph[start_node]]
```

```
    Heapq.heapify(edges)
```

```
    While edges:
```

```
        Cost,u,v=heapq.heappop(edges)
```

```
        If v not in visited:
```

```
            Visited.add(v)
```

```
            Mst.append((cost,u,v))
```

```
            For neighbor,n_cost in self.graph[v]:
```

```
                If neighbor not in visited:
```

```
        Heapq.heappush(edges,(n_cost,v,neighbor))
```

```
    Return mst
```

```
Graph = Graph()
```

```
Num_edge=int(input(" no of edges"))
```

```
For _ in range(num_edge):
```

```
    U,v,weight=input("enter u v weight ").split()
```

```
    Graph.add_edge(u,v,int(weight))
```

```
Mst=graph.prim_mst()
```

```
Print("mst")
```

```
For edge in mst:
```

```
    Print(edge)
```