

```

1  /// Kruskal Algorithm(MST):
2  #include<bits/stdc++.h>
3  using namespace std;
4  #define mx 100
5  int par[mx];
6  struct edge{
7      int u,v,w;
8      edge(int a, int b, int c){
9          u=a;v=b;w=c;
10     }
11     bool operator < (const edge& p) const{
12         return p.w < w;
13     }
14 };
15 priority_queue<edge>pq;
16 queue<edge>Q;
17
18 int findparent(int x){
19     if(par[x]==x) return x;
20     else return par[x]=findparent(par[x]);
21 }
22
23 int kruskalMST(int node){
24     int Mincost=0;
25     for(int i=1; i<=node; i++) par[i]=i;
26
27     for(int i=1; i<=node-1; i++){
28         label:
29         edge top = pq.top();
30         pq.pop();
31
32         int parU = findparent(top.u);
33         int parV = findparent(top.v);
34
35         if(parU==parV){
36             goto label;
37         }else{
38             par[parU]=parV;
39             Q.push(top);
40             Mincost += top.w;
41         }
42     }
43     return Mincost;
44 }
45
46 int main(){
47     int node,edg,u,v,w,mincst,src;
48     cin >> node >> edg;
49
50     for(int i=0; i<edg; i++){
51         cin >> u >> v >> w;
52         pq.push(edge(u,v,w));
53     }
54
55     mincst=kruskalMST(node);
56
57     cout <<endl<<"Minimum Spanning Tree:"<<endl<<endl;
58     cout << " Edges " << " Weight" << endl;
59
60     for(int i=1; i<=node-1; i++){
61         edge top=Q.front();
62         Q.pop();
63         printf("%2d  %2d  %3d\n\n",top.u,top.v,top.w);
64     }
65     cout <<endl<<"Total Minimum Cost: "<<mincst<<endl;
66
67     return 0;
68 }

```