

```
1  /// Dijkstra
2  #include<bits/stdc++.h>
3  using namespace std;
4  #define Inf 9999
5  vector<int>adj[100];
6  int node, edge, d[100], vis[100], cost[100][100];
7
8  struct st{
9      int u,w;
10     st(int a, int b){ u=a;w=b; }
11     bool operator <(const st& p)const{
12         return p.w < w;
13     }
14 };
15
16 void Dijkstra(int src){
17     memset(d,Inf,sizeof(d));
18     memset(vis,0,sizeof(vis));
19     priority_queue<st>pq;
20
21     d[src]=0;
22     pq.push(st(src,d[src]));
23
24     while(!pq.empty()){
25         st top = pq.top(); pq.pop();
26         int u = top.u;
27         if(vis[u]==1) continue;
28
29         for(int i=0; i<adj[u].size(); i++){
30             int v=adj[u][i];
31             if(d[u]+cost[u][v] < d[v]){
32                 d[v]=d[u]+cost[u][v];
33                 pq.push(st(v,d[v]));
34             }
35         }
36         vis[u]=1;
37     }
38 }
39 int main(){
40     int u,v,w,src;
41     printf("Enter the Number of Node: ");
42     cin >> node;
43     printf("Enter the Number of Edge: ");
44     cin >> edge;
45
46     printf("Enter all the Edges\n");
47     for(int i=0; i<edge; i++){
48         cin >> u >> v >> w;
49         adj[u].push_back(v);
50         adj[v].push_back(u);
51         cost[u][v]=w;
52         cost[v][u]=w;
53     }
54     printf("Enter the Source: ");
55     cin >> src;
56
57     Dijkstra(src);
58
59     for(int i=1; i<=node; i++){
60         if(d[i]==Inf) printf("Not possible to go %d to %d.\n",src,i);
61         else printf("%d to %d distance %d.\n",src,i,d[i]);
62     }
63
64     return 0;
65 }
```