

After creating your graph with weights. The following function returns the shortest distance path (cost, and the path itself) from a certain source node (if exists) to a target (or to all other nodes):

```
1.          //u, {cost, v}
2. ll dijkstra(vector<vector<pair<ll,int>>>&adj, vector<int>&parent, int src, int
   tar){
3.     vector<ll>distance(adj.size(),LOO);
4.          //{cost, node}
5.     priority_queue<pair<ll,int>, vector<pair<ll,int>>, greater<pair<ll,int>>>q;
6.     distance[src]=0;
7.     q.push({0, src});
8.     while(!q.empty()){
9.         int u=q.top().second;
10.        ll c=q.top().first;
11.        q.pop();
12.        if(u==tar) return distance[u];
13.        if(c!= distance[u]) continue;
14.        for(auto p:adj[u]){
15.            int v=p.second;
16.            ll cc=p.first;
17.            if(distance[v]>distance[u]+cc){
18.                distance[v]=distance[u]+cc;
19.                q.push({distance[v], v});
20.                parent[v]=u;
21.            }
22.        }
23.    }
24.    return -1;
25.}

26.void printParents(int n, vector<int>&par){
27.    while(n!=-1){
28.        ans.push_back(n+1);
29.        n=par[n];
30.    }
31.}
```

IDEONE: <https://ideone.com/QOR96e>