

```
1 class Prim {
2 private:
3     struct node {
4         int id; bool done; vi to; vll cst; int from; ll d;
5     };
6     struct pq_t {
7         int id; ll d;
8         bool operator<(const pq_t & another) const {
9             return d != another.d ? d > another.d : id > another.id;
10        }
11    };
12    vector<node> nodes;
13    int n, m;
14 public:
15     Prim(const vvi &lst, const vvll &cst) {
16         n = lst.size();
17         nodes.resize(n);
18         Loop(i, n) nodes[i] = { i, false, {}, {}, -1, LLONG_MAX };
19         Loop(i, n) {
20             Loop(j, lst[i].size()) {
21                 nodes[i].to.push_back(lst[i][j]);
22                 nodes[i].cst.push_back(cst[i][j]);
23             }
24         }
25         nodes[0].d = 0;
26         priority_queue<pq_t> pq;
27         pq.push({ nodes[0].id, nodes[0].d });
28         while (pq.size()) {
29             int a = pq.top().id;
30             pq.pop();
31             if (nodes[a].done) continue;
32             nodes[a].done = true;
33             Loop(j, nodes[a].to.size()) {
34                 int b = nodes[a].to[j];
35                 if (nodes[b].done) continue;
36                 ll buf = nodes[a].cst[j];
37                 if (buf < nodes[b].d) {
38                     nodes[b].d = buf;
39                     nodes[b].from = a;
40                     pq.push({ b, nodes[b].d });
41                 }
42             }
43         }
44         return;
45     }
46     vector<P> get_result() {
47         vector<P> ret;
48         Loop1(i, n - 1) {
49             int a = i;
50             int b = nodes[i].from;
51             if (a > b) swap(a, b);
52             ret.push_back({ a, b });
53         }
54     }
55     ll get_weight() {
56         ll ret = 0;
57         Loop(i, n) {
58             ret += nodes[i].d;
59         }
60         return ret;
61     }
62 };
```