

```

1  #include <bits/stdc++.h>
2  using namespace std;
3  #define ll long long
4  #define inf (int)1e9
5
6  DSU:
7  struct DSU{
8      vector<int> par, siz;
9      int comp;
10
11      DSU(int n) {
12          par.assign(n, 0);
13          siz.assign(n, 1);
14          iota(par.begin(), par.end(), 0);
15          comp=n;
16      }
17
18      int find(int x) {
19          while(x≠par[x]) par[x]=par[par[x]], x=par[x];
20          return x;
21      }
22
23      // merge u in component of v
24      void merge(int u, int v) {
25          int a=find(u);
26          int b=find(v);
27          if(a==b) return;
28          comp--;
29          if(siz[a]>siz[b]) swap(a, b);
30          siz[b]+=siz[a];
31          siz[a]=0;
32          par[a]=par[b];
33      }
34  };

```