

```
1  /*
2   | Disjoint Set Union |
3   Desc: Maintaining disjoint set in  $O(n \alpha(n))$ .
4   Source: KawakiMeido
5   State: Untested lmao
6 */
7
8 //DSU
9 //
10
11 struct DSU{
12     int n;
13     vector<int> parent;
14
15     void Init(int _n){
16         n = _n;
17         parent.resize(n, 0);
18         for (int i=1; i≤n; i++){
19             parent[i] = i;
20         }
21     }
22
23     int Find(int x){
24         return (x == parent[x])? x : parent[x] = Find(parent[x]);
25     }
26
27     bool IsSame(int u, int v){
28         return (Find(u) == Find(v));
29     }
30
31     void Union(int u, int v){
32         int x = Find(u);
33         int y = Find(v);
34         if (x≠y){
35             parent[y] = x;
36         }
37     }
38 };
```