

代码

一: [班长](#)

```
#pragma GCC optimize(3,"Ofast","inline")
#include <bits/stdc++.h>

#define ios_close std::ios::sync_with_stdio(false), std::cin.tie(nullptr),
std::cout.tie(nullptr)

using ll = long long;
using ull = unsigned long long;
using i128 = __int128;
#define Pi acos(-1.0);
#define PINF 0x3f3f3f3f
#define NINF -0x3f3f3f3f

int n, m;
std::vector<int> fa(100010);
std::vector<int> edges[100010];
std::vector<int> root(100010);

void init(){
    for(int i = 1; i <= n; i ++ ){
        fa[i] = i;
        root[i] = i;
    }
}

int find(int x){
    return (fa[x] == x) ? x : fa[x] = find(fa[x]);
}

void merge(int x, int y){
    int fx = find(x);
    int fy = find(y);
    if(fx != fy){
        fa[fx] = fy;
        root[fx] = root[fy];
    }
}

void change(int x){
    root[find(x)] = x;
}

int get(int x){
    return (root[x] == x) ? x : root[find(x)];
}

void solve(){
    std::cin >> n >> m;
    init();
    while(m -- ){
```

```

    int a, b, c;
    std::cin >> a >> b;
    if(a == 1){
        std::cin >> c;
        merge(b, c);
    } else if(a == 2){
        change(b);
    } else {
        std::cout << get(b) << '\n';
    }
}

int main(){
#ifdef 0
    ios_close;
#endif

#ifdef 0
    freopen(".in", "r", stdin);
    freopen(".out", "w", stdout);
#endif
    int T = 1;
#ifdef 0
    std::cin >> T;
#endif
    while(T -- ){
        solve();
    }
    return 0;
}

```

二： 索道

```

#include <bits/stdc++.h>

void solve(){
    int a[3010] = {0};
    int n, k;
    std::cin >> n >> k;
    for(int i = 1; i <= n; i ++ ){
        std::cin >> a[i];
    }
    int dp_up[3010] = {0};
    int dp_down[3010] = {0};
    for(int i = 1; i <= k; i ++ ){
        dp_up[i] = 1;
        for(int j = 1; j < i; j ++ ){
            if(a[i] > a[j]){
                dp_up[i] = std::max(dp_up[i], dp_up[j] + 1);
            }
        }
    }

    for(int i = n; i >= k; i -- ){
        dp_down[i] = 1;
        for(int j = n; j >= i; j -- ){

```

```

        if(a[i] > a[j]){
            dp_down[i] = std::max(dp_down[i], dp_down[j] + 1);
        }
    }
}
std::cout << dp_down[k] + dp_up[k] - 1;
}

int main(){
    int T = 1;
    while( T -- ){
        solve();
    }
    return 0;
}

```

三：排列字母

```

#include<bits/stdc++.h>

using namespace std;

int main(){
    string s;
    cin >> s;
    map<char, int> mp;
    for(int i = 0; i < s.size(); i ++ ){
        mp[s[i]] ++;
    }
    if(mp.size() == 1){
        cout << 1;
    } else if(mp.size() == 2){
        cout << 3;
    } else {
        cout << 6;
    }
    return 0;
}

```

四：显示器比例

```

#pragma GCC optimize(3,"Ofast","inline")
#include <bits/stdc++.h>

#define ios_close std::ios::sync_with_stdio(false), std::cin.tie(nullptr),
std::cout.tie(nullptr)

using ll = long long;
using ull = unsigned long long;
using i128 = __int128;
#define Pi acos(-1.0);
#define PINF 0x3f3f3f3f

```

```
#define NINF -0x3f3f3f3f

void solve(){
    std::string s;
    std::cin >> s;
    int pos = s.find("*");
    int n = atoi(s.substr(0, pos).c_str());
    int m = atoi(s.substr(pos + 1).c_str());
    int t = std::__gcd(n, m);
    printf("%d:%d", n / t, m / t);
}

int main(){
    #if 0
        ios_close;
    #endif

    #if 0
        freopen(".in", "r", stdin);
        freopen(".out", "w", stdout);
    #endif
    int T = 1;
    #if 0
        std::cin >> T;
    #endif
    while(T -- ){
        solve();
    }
    return 0;
}
```