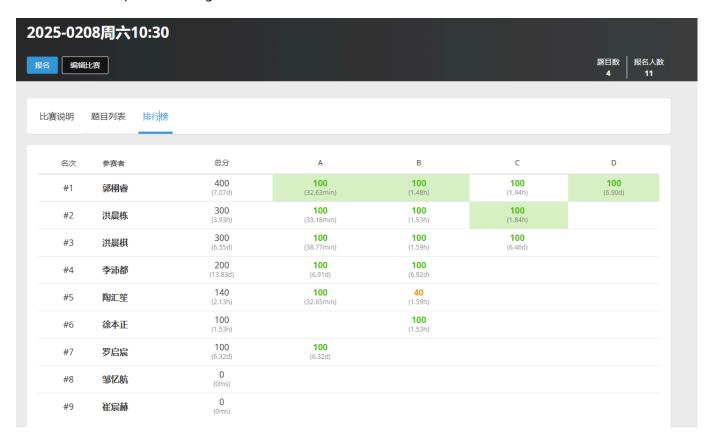# vector数组的使用

人员

郭栩睿、洪晨栋、洪晨棋、李沛都、陶汇笙、罗启宸、张昱霖、邹忆航、宋吉相、张曦月、王静嘉、崔宸赫 到课

作业检查

上周作业链接: https://www.luogu.com.cn/contest/229689

作业

https://www.luogu.com.cn/contest/231079 (课上讲了 A~D 4 个题, 课后作业是 E 题)

课堂表现

陶汇笙、洪晨栋、邹忆航、洪晨棋 课上做题表现比较好，也有几位同学课上题目做的比较差，课下要好好再做一做。

课堂内容

B3977 [语言月赛 202405] 更好的交换

```
#include<iostream>
using namespace std;
```

```cpp
int a[1005][1005],b[1005],c[1005];
int main(){
    int n,m;
    cin>>n>>m;
    for(int i=1;i<=n;i++){
        for(int j=1;j<=n;j++){
            cin>>a[i][j];
            b[i]=i,c[j]=j;
        }
    }
    for(int i=1;i<=m;i++){
        int op,x,y;
        cin>>op>>x>>y;
        if(op==1){
            swap(b[x],b[y]);
        }else{
            swap(c[x],c[y]);
        }
    }
    for(int i=1;i<=n;i++){
        for(int j=1;j<=n;j++){
            cout<<a[b[i]][c[j]]<<" ";
        }
        cout<<endl;
    }
    return 0;
}
```

U516889 combine

```cpp
#include <bits/stdc++.h>

using namespace std;

int main()
{
    stack<int> stk;
    int n; cin >> n;
    while (n -- ) {
        int x; cin >> x;
        stk.push(x);
        while (stk.size() >= 2) {
            int a = stk.top(); stk.pop();
            int b = stk.top(); stk.pop();
            if (a == b) stk.push(a+1);
            else {
                stk.push(b), stk.push(a);
                break;
            }
        }
    }
```

```
        cout << stk.size() << endl;
        return 0;
    }
```

P1459 [USACO2.1] 三值的排序 Sorting a Three-Valued Sequence

```cpp
#include <bits/stdc++.h>

using namespace std;

int a[1005];

int main()
{
    int n; cin >> n;
    for (int i = 1; i <= n; i++) cin >> a[i];

    int cnt1 = 0, cnt2 = 0;
    for (int i = 1; i <= n; i++) {
        if (a[i] == 1) cnt1++;
        else if (a[i] == 2) cnt2++;
    }

    int res = 0, c2 = 0;
    for (int i = 1; i <= cnt1; i++) {
        if (a[i] != 1) {
            res++;
            if (a[i] == 2) c2++;
        }
    }

    for (int i = cnt1+1; i <= n; i++) {
        if (a[i] == 1) {
            if (c2 == 0) a[i] = 3;
            else {
                a[i] = 2;
                c2--;
            }
        }
    }

    for (int i = cnt1+1; i <= cnt1+cnt2; i++) {
        if (a[i] == 3) res++;
    }
    cout << res << endl;
    return 0;
}
```

U499172 找每个数出现的第 k 个位置

```cpp
#include <bits/stdc++.h>

using namespace std;

vector<int> vec[500005];

int main()
{
    int n, m; cin >> n >> m;
    for (int i = 1; i <= n; i++) {
        int x; cin >> x;
        vec[x].push_back(i);
    }

    while (m -- ) {
        int x, k; cin >> x >> k;
        cout << vec[x][k-1] << endl;
    }
    return 0;
}
```

```cpp
#include <bits/stdc++.h>

using namespace std;
```