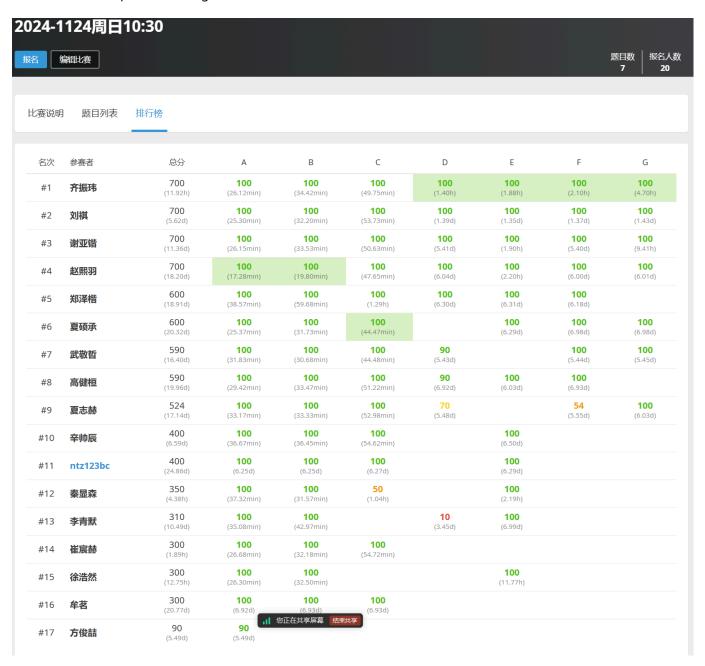
优先队列

人员

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作业检查

上周作业链接: https://www.luogu.com.cn/contest/215772



作业

https://www.luogu.com.cn/contest/217571

课堂表现

同学们课上听讲都很认真, 今天的第2题珍珠链2很重要, 同学们课下要好好研究一下这道题。

课堂内容

U510530 珍珠链

```
#include <bits/stdc++.h>
using namespace std;
const int maxn = 1e6 + 5;
char s[maxn];
int main()
    cin >> (s+1);
    int n = strlen(s+1);
    int res = 0;
    for (int i = 1; i <= n; ++i) {
        for (int j = i+1; j <= n; ++j) {
            int sum = 0;
            for (int k = i; k <= j; ++k) {
                if (s[k] == 'G') sum++;
                else sum--;
            if (sum == 0) res = max(res, j-i+1);
    cout << res << endl;</pre>
    return 0;
}
```

U510529 珍珠链2

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

using namespace std;

const int maxn = 1e6 + 5;
    char str[maxn];
    int f[maxn];

int main()
{
        cin >> (str+1);
        int n = strlen(str+1);
        for (int i = 1; i <= n; ++i) {
            if (str[i] == 'G') f[i] = f[i-1] + 1;
            else f[i] = f[i-1] - 1;
        }
}</pre>
```

```
map<int, int> mp;
mp[0] = 0;
int res = 0;
for (int i = 1; i <= n; ++i) {
   int t = f[i];
   if (mp.count(t)) {
     res = max(res, i-mp[t]);
   } else {
     mp[t] = i;
   }
}
cout << res << endl;
return 0;
}</pre>
```

优先队列

```
头文件: #include <queue>
定义小根堆: priority_queue<int, vector<int>, greater<int>> q;
定义大根堆: priority_queue<int, vector<int>, less<int>> q;
使用方法: push, pop, empty, size, top
```

P3378【模板】堆

```
#include<iostream>
#include<string>
#include<map>
#include<queue>
using namespace std;
int main(){
    priority_queue<int, vector<int>, greater<int>> pq;
    int T;
    cin>>T;
    while (T--){
        int t,x;
        cin>>t;
        if (t==1){
            cin>>x;
            pq.push(x);
        }
        if (t==2){
            cout<<pq.top()<<endl;</pre>
        }
        if (t==3){
             pq.pop();
```

```
}
return 0;
}
```

P1090 [NOIP2004 提高组] 合并果子 / [USACO06NOV] Fence Repair G

```
#include <bits/stdc++.h>
using namespace std;
int main()
{
    priority_queue<int, vector<int>, greater<int>>q;
    int n; cin >> n;
    while (n --) \{ int x; cin >> x; q.push(x); \}
    int res = 0;
    while (q.size() > 1) {
       int t1 = q.top(); q.pop();
        int t2 = q.top(); q.pop();
        int t = t1 + t2;
        q.push(t); res += t;
    cout << res << endl;</pre>
    return 0;
}
```