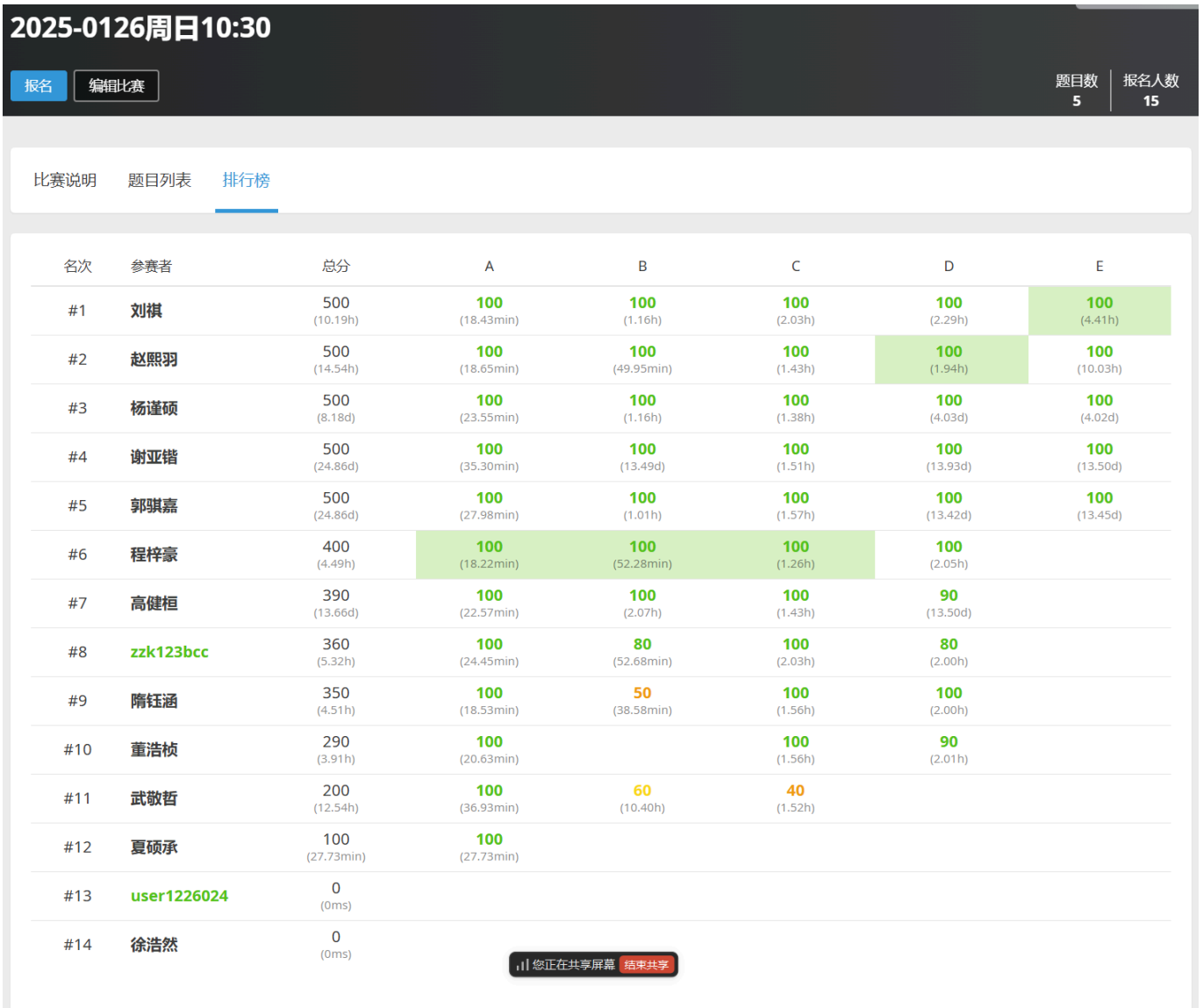
单调栈对调队列综合复习

人员

程梓豪、隋钰涵、赵熙羽、高健桓、杨瑾硕、郭骐嘉、夏硕承、谢亚锴、牛同泽、刘闯速 到课, 牟茗 线上

作业检查

上周作业链接: https://www.luogu.com.cn/contest/228340



2025-0126周日10:30

报名 编辑比赛

题目数 5 | 报名人数 15

比赛说明 题目列表 排行榜

名次	参赛者	总分	A	B	C	D	E
#1	刘祺	500 (10.19h)	100 (18.43min)	100 (1.16h)	100 (2.03h)	100 (2.29h)	100 (4.41h)
#2	赵熙羽	500 (14.54h)	100 (18.65min)	100 (49.95min)	100 (1.43h)	100 (1.94h)	100 (10.03h)
#3	杨谨硕	500 (8.18d)	100 (23.55min)	100 (1.16h)	100 (1.38h)	100 (4.03d)	100 (4.02d)
#4	谢亚锴	500 (24.86d)	100 (35.30min)	100 (13.49d)	100 (1.51h)	100 (13.93d)	100 (13.50d)
#5	郭骐嘉	500 (24.86d)	100 (27.98min)	100 (1.01h)	100 (1.57h)	100 (13.42d)	100 (13.45d)
#6	程梓豪	400 (4.49h)	100 (18.22min)	100 (52.28min)	100 (1.26h)	100 (2.05h)	
#7	高健桓	390 (13.66d)	100 (22.57min)	100 (2.07h)	100 (1.43h)	90 (13.50d)	
#8	zzk123bcc	360 (5.32h)	100 (24.45min)	80 (52.68min)	100 (2.03h)	80 (2.00h)	
#9	隋钰涵	350 (4.51h)	100 (18.53min)	50 (38.58min)	100 (1.56h)	100 (2.00h)	
#10	董浩桢	290 (3.91h)	100 (20.63min)		100 (1.56h)	90 (2.01h)	
#11	武敬哲	200 (12.54h)	100 (36.93min)	60 (10.40h)	40 (1.52h)		
#12	夏硕承	100 (27.73min)	100 (27.73min)				
#13	user1226024	0 (0ms)					
#14	徐浩然	0 (0ms)					

您正在共享屏幕 结束共享

作业

https://www.luogu.com.cn/contest/229942 (课上讲了 A~E 5 个题, 课后作业是 F 题)

课堂表现

今天针对之前的一些内容进行了一定的复习, 从今天的课上可以看出来很多同学之前的内容都遗忘了, 同学们课下一定要注意复习。

课堂内容

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

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

using namespace std;

const int maxn = 1000 + 5;
int w[maxn];

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

    int cnt1 = 0, cnt2 = 0, cnt3 = 0;
    for (int i = 1; i <= n; ++i) {
        if (w[i] == 1) cnt1++;
        else if (w[i] == 2) cnt2++;
        else cnt3++;
    }

    int res = 0, c2 = 0, c3 = 0;
    for (int i = 1; i <= cnt1; ++i) {
        if (w[i] == 2) res++, c2++;
        else if (w[i] == 3) res++, c3++;
    }

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

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

B3977 [语言月赛 202405] 更好的交换

```cpp
#include <bits/stdc++.h>
using namespace std;

const int N = 1e3+10;
int a[N][N],b[N],c[N];

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[i] = i;
    }

    for (int i = 1;i <= m;i++)
    {
        int op,x,y;
        cin>>op>>x>>y;
        if (op == 0)
        {
            swap(c[x],c[y]);
        }
        else
        {
            swap(b[x],b[y]);
        }
    }

    for (int i = 1;i <= n;i++)
    {
        for (int j = 1;j <= n;j++)
        {
            cout<<a[b[i]][c[j]]<<' ';
        }
        cout<<'\n';
    }
    return 0;
}
```

P2866 [USACO06NOV] Bad Hair Day S

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

using namespace std;
```

```
typedef long long LL;
const int maxn = 8e4 + 5;
int w[maxn];

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

    LL res = 0;
    stack<int> stk;
    for (int i = n; i >= 1; --i) {
        while (!stk.empty() && w[i]>w[stk.top()]) stk.pop();
        res += (stk.empty() ? n+1-i-1 : stk.top()-i-1);
        stk.push(i);
    }
    cout << res << endl;
    return 0;
}
```

P1440 求m区间内的最小值

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

using namespace std;

const int maxn = 2e6 + 5;
int w[maxn];

int main()
{
    int n, m; cin >> n >> m;
    for (int i = 1; i <= n; ++i) scanf("%d", &w[i]);

    deque<int> dq;
    cout << 0 << "\n";
    for (int i = 1; i <= n-1; ++i) {
        if (!dq.empty() && i-dq.front()>=m) dq.pop_front();
        while (!dq.empty() && w[i]<=w[dq.back()]) dq.pop_back();
        dq.push_back(i);
        cout << w[dq.front()] << "\n";
    }
    cout << endl;
    return 0;
}
```

P1532 卡布列克圆舞曲

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

using namespace std;

typedef long long LL;

LL calc(LL n) {
    vector<int> vec;
    while (n != 0) vec.push_back(n%10), n /= 10;

    sort(vec.begin(), vec.end());
    LL minn = 0;
    for (int i : vec) minn = minn*10 + i;

    reverse(vec.begin(), vec.end());
    LL maxx = 0;
    for (int i : vec) maxx = maxx*10 + i;

    return maxx - minn;
}

void solve(LL n) {
    set<LL> s;
    while (!s.count(n)) {
        s.insert(n); n = calc(n);
    }

    s.clear();
    while (!s.count(n)) {
        cout << n << " ";
        s.insert(n); n = calc(n);
    }
    cout << endl;
}

int main()
{
    LL n;
    while (cin >> n) solve(n);
    return 0;
}
```