综合混练

人员

杨咏丞、李雨谦、韩鸣蔚、陈欣妙、刘奕辰、曹塬、董昱含、杨俊彦、龙沛轩、王陆文龙、李锦澍、周治润、潘俊伊、袁晨峻、司云心、徐思远、白芸珲 到课, 王博涵 线上

上周作业检查

https://www.luogu.com.cn/contest/233685

2025-0302六队上课(综合混练)

报名 编辑比赛

题目数 6 | 报名人数 23

比赛说明 题目列表 排行榜

名次	参赛者	总分	A	B	C	D	E	F
#1	杨俊彦	600 (7.41h)	100 (19.10min)	100 (33.27min)	100 (41.40min)	100 (1.52h)	100 (1.83h)	100 (2.50h)
#2	李锦澍	600 (1.24d)	100 (21.13min)	100 (37.35min)	100 (6.64h)	100 (6.47h)	100 (7.45h)	100 (8.22h)
#3	陈欣妙	600 (2.25d)	100 (11.10min)	100 (35.67min)	100 (1.48h)	100 (1.75h)	100 (13.01h)	100 (1.54d)
#4	袁晨峻	600 (3.12d)	100 (33.12min)	100 (48.08min)	100 (1.58h)	100 (1.87h)	100 (1.45d)	100 (1.46d)
#5	阮文璋	600 (7.35d)	100 (5.37h)	100 (5.73h)	100 (5.99h)	100 (13.50h)	100 (2.58d)	100 (3.50d)
#6	王承周	600 (9.75d)	100 (5.34h)	100 (5.66h)	100 (6.06h)	100 (7.07h)	100 (2.42d)	100 (6.33d)
#7	杨咏丞	600 (10.22d)	100 (21.28min)	100 (47.03min)	100 (3.36d)	100 (1.92h)	100 (3.37d)	100 (3.36d)
#8	白云晖	600 (11.96d)	100 (3.66h)	100 (5.06h)	100 (6.08h)	100 (6.48h)	100 (5.56d)	100 (5.51d)
#9	刘奕辰	600 (13.25d)	100 (6.00min)	100 (44.27min)	100 (1.03h)	100 (1.54h)	100 (6.54d)	100 (6.56d)
#10	董昱含	600 (13.75d)	100 (19.40min)	100 (50.57min)	100 (1.58h)	100 (3.48d)	100 (3.56d)	100 (6.60d)
#11	王毅博	576 (14.10d)	100 (5.35h)	100 (5.78h)	100 (6.05h)	76 (6.84h)	100 (6.54d)	100 (6.56d)
#12	潘俊伊	564 (5.03d)	100 (10.38min)	100 (30.57min)	100 (1.00h)	64 (47.42min)	100 (2.45d)	100 (2.47d)
#13	王陆文龙	500 (3.07d)	100 (18.42min)	100 (51.62min)	100 (1.60h)	100 (1.48d)	100 (1.48d)	
#14	曹塬	500 (3.16d)	100 (23.87min)	100 (40.23min)	100 (1.64h)	100 (1.51d)	100 (1.53d)	
#15	韩鸣蔚	500 (4.75d)	100 (17.20min)	100 (46.60min)	100 (1.14h)	100 (1.93h)		100 (4.58d)
#16	SSJ	500 (5.63d)	100 (1.28h)	100 (1.09h)	100 (1.01h)		100 (1.95h)	100 (5.41d)
#17	周治润	500 (6.09d)	100 (15.75min)	100 (40.00min)	100 (59.62min)	100 (1.78h)	100 (5.94d)	
#18	龙沛轩	500 (11.15d)	100 (15.38min)	100 (49.42min)	100 (1.63h)		100 (5.52d)	100 (5.52d)
#19	褚锦轩	500 (11.70d)	100 (5.25h)	100 (5.83h)	100 (6.19h)	100 (5.48d)	100 (5.50d)	
#20	许睿谦	400 (7.28d)	100 (5.33h)	100 (5.80h)	100 (6.10h)		100 (6.56d)	
#21	李雨谦	390 (2.58d)	100 (11.17min)	100 (40.85min)	100 (1.53h)		90 (2.48d)	
#22	王博涵	114 (2.02h)	100 (23.70min)		14 (1.62h)			

作业

https://www.luogu.com.cn/contest/234970 (课上讲了 A~E 题, 课后必做作业是 F 题, 选做作业是 G 题。G 题比较难一些, 不做强制要求, 同学们可以想一想)

课堂表现

今天课上大部分同学们写题写的都不太顺利, 侧面反映了同学们代码基本功有些薄弱, 课下要多写题多复习。

课堂内容

P1413 坚果保龄球

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

using namespace std;

vector<int> vec[10];

int calc(vector<int> vv) {
    if (vv.empty()) return 0;

    sort(vv.begin(), vv.end());
    int res = 1, time = vv[0], n = vv.size();
    for (int i = 0; i < n; i++) {
        if (vv[i]-time < 60) continue;
        res++, time = vv[i];
    }
    return res;
}

int main()
{
    int n; cin >> n;
    while (n -- ) {
        int x, y; cin >> x >> y;
        vec[x].push_back(y);
    }

    int sum = 0;
    for (int i = 1; i <= 6; i++) {
        sum += calc(vec[i]);
    }
    cout << sum << endl;
    return 0;
}
```

P2241 统计方形（数据加强版）

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

using namespace std;

typedef long long LL;

int main()
{
  int n, m; cin >> n >> m;
  LL sum1 = 0, sum2 = 0;
  for (int i = 1; i <= n; ++i) {
    for (int j = 1; j <= m; ++j) {
```

```
      sum1 += i*j, sum2 += min(i,j);
    }
  }
  cout << sum2 << " " << sum1-sum2 << endl;
  return 0;
}
```

U516885 string

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

using namespace std;

int main()
{
    int T; cin >> T;
    for (int k = 1; k <= T; k++) {
        string s; cin >> s;
        int cnt0 = 0, cnt1 = 0, n = s.size();
        for (int i = 0; i < n; i++) {
            if (s[i] == '0') cnt0++;
            else cnt1++;
        }

        int sum = 0;
        for (int i = 0; i < n; i++) {
            if (s[i] == '0') cnt1--;
            else cnt0--;
            if (cnt0<0 || cnt1<0) break;
            sum++;
        }
        cout << n - sum << endl;
    }
    return 0;
}
```

U516887 digit

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

using namespace std;

const int maxn = 200005;
const int mod = 998244353;
char a[maxn], b[maxn];

int main()
{
```

```
    int n;
    cin >> n;
    cin >> (a+1) >> (b+1);

    for (int i = 1; i <= n; ++i) {
        if (a[i] > b[i]) swap(a[i], b[i]);
    }

    long long x = 0, y = 0;
    for (int i = 1; i <= n; ++i) {
        x = (x*10 + a[i]-'0') % mod;
        y = (y*10 + b[i]-'0') % mod;
    }
    cout << (x*y) % mod << endl;
    return 0;
}
```

U516889 combine

```
#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;
}
```

P1532 卡布列克圆舞曲

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

```cpp
using namespace std;

typedef long long LL;

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

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

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

    return maxx - minn;
}

void solve(LL n) {
    set<LL> s;
    while (true) {
        if (s.count(n)) {
            LL t = n;
            while (true) {
                cout << t << " ";
                t = calc(t);
                if (t == n) break;
            }
            cout << endl;
            return;
        } else {
            s.insert(n);
            n = calc(n);
        }
    }
}

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