

一维数组进阶练习

人员

刘轩铜、郭浩宇、李宜恬、贾庚濤、罗艺山、韩昱辰、王森、周熙浩、王馨琪 到课

作业

<https://www.luogu.com.cn/contest/203521>

课堂表现

同学们课上听讲都很认真，不过许多同学在写数组和循环的时候还是不很熟练。

刘轩铜、王馨琪 2 位同学课上做题表现最好，提出表扬！

课堂内容

U480292 求相加之和最大的起始位置

把 $a[1]$, $a[2]$, $a[3]$ 三个数放到 $a[n+1]$, $a[n+2]$, $a[n+3]$ 的位置

然后从 1 到 n 进行 for 循环, 每次统计 4 个数的和就可以了, 并维护一个最大值

```
#include <iostream>

using namespace std;

int a[25];

int main()
{
    int n;
    cin >> n;
    for (int i = 1; i <= n; ++i) {
        cin >> a[i];
    }
    a[n+1] = a[1];
    a[n+2] = a[2];
    a[n+3] = a[3];

    int maxx = -1, pos;
    for (int i = 1; i <= n; i++) {
        int he = a[i] + a[i+1] + a[i+2] + a[i+3];
        if (he > maxx) {
            maxx = he;
            pos = i;
        }
    }
    cout << maxx << endl;
```

```
    cout << pos << endl;
    return 0;
}
```

U480297 交换

```
#include <iostream>

using namespace std;

int w[25];

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

    int a, b, c, d;
    cin >> a >> b >> c >> d;
    // w[a] --- w[c]
    // w[a+1] --- w[c+1]
    // ...
    // w[b] --- w[d]
    for (int i = 0; a+i<=b; i++) {
        // 交换 a+i 和 c+i
        int t = w[a+i];
        w[a+i] = w[c+i];
        w[c+i] = t;
    }
    for (int i = 1; i <= n; i++) {
        cout << w[i] << " ";
    }
    cout << endl;
    return 0;
}
```

P1428 小鱼比可爱

```
#include <iostream>

using namespace std;

int a[105];

int main()
```

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

    for (int i = 1; i <= n; i++) {
        // 求第 i 个鱼左边有几个不如他可爱的: cnt
        int cnt = 0;
        // 第 i 只鱼的左边有 1/2/3/.../i-1
        for (int j = 1; j <= i-1; j++) {
            if (a[j] < a[i]) {
                cnt++;
            }
        }
        cout << cnt << " ";
    }
    return 0;
}
```

P1427 小鱼的数字游戏

```
#include <iostream>

using namespace std;

int a[105];

int main()
{
    int n;
    for (int i = 1; ; i++) {
        cin >> a[i];
        if (a[i] == 0) {
            n = i;
            break;
        }
    }

    // a[1], a[2], a[3], ..., a[n-1], a[n]

    for (int i = n-1; i >= 1; i--) {
        cout << a[i] << " ";
    }
    return 0;
}
```

U480299 迟到的小明

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

using namespace std;

int a[105];

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

    int p;
    for (int i = 1; i <= n; i++) {
        if (a[i] == x) {
            p = i;
            break;
        }
    }

    for (int i = 1; i <= p; i++) {
        cout << a[i] << " ";
    }
    cout << y << " ";
    for (int i = p+1; i <= n; i++) {
        cout << a[i] << " ";
    }
    return 0;
}
```