一维数组进阶练习

人员

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作业

https://www.luogu.com.cn/contest/203727

课堂表现

有些同学对于数组的使用还不是很熟练，课下要加强联系。

初锦阳、纪博涵 2 位同学这节课做题表现比较好，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;
}
```

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;
}
```

U480302 在最大数后面插入一个数

```
#include <iostream>

using namespace std;

int a[110];

int main()
```

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

    int maxx = 0;
    for (int i = 1; i <= n; i++) {
        if (a[i] > maxx) {
            maxx = a[i];
        }
    }

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

P1427 小鱼的数字游戏

```
#include <iostream>

using namespace std;

int a[110];

int main()
{
    int n = 1;
    while (true) {
        cin >> a[n];
        if (a[n] == 0) {
            break;
        } else {
```

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

P1428 小鱼比可爱

```
#include <iostream>

using namespace std;

int a[110];

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

    for (int i = 1; i <= n; i++) {
        int cnt = 0;  // i 的左边有几个数比 a[i] 小

        for (int j = 1; j <= i-1; j++) {
            if (a[j] < a[i]) {
                cnt++;
            }
        }

        cout << cnt << " ";
    }
    return 0;
}
```

P5727 【深基5.例3】冰雹猜想

```
#include <iostream>

using namespace std;

int a[1005];

int main()
```

```
{
    int n;
    cin >> n;
    int id = 1;
    a[id] = n; id++;
    while (n != 1) {
        if (n%2 == 1) {
            n = n*3 + 1;
        } else {
            n = n / 2;
        }
        a[id] = n; id++;
    }

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

U480315 剪子包袱锤

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

using namespace std;

int a[105], b[105];

int main()
{
  int N, NA, NB; cin >> N >> NA >> NB;
  for (int i = 1; i <= NA; ++i) {
    cin >> a[i];
  }
  for (int i = 1; i <= NB; ++i) {
    cin >> b[i];
  }

  for (int i = NA+1; i <= N; ++i) {
    a[i] = a[i-NA];
  }
  for (int i = NB+1; i <= N; ++i) {
    b[i] = b[i-NB];
  }

  int suma = 0, sumb = 0;
  for (int i = 1; i <= N; ++i) {
    if (a[i] == b[i]) {
      suma += 0;
      sumb += 0;
    }
```

```
    else if ((a[i]==2&&b[i]==5) || (a[i]==5&&b[i]==0) || (a[i]==0&&b[i]==2)) {
      suma++;
    }
    else {
      sumb++;
    }
  }

  if (suma > sumb) {
    cout << "A";
  }
  else if (sumb > suma) {
    cout << "B";
  }
  else {
    cout << "draw";
  }
  return 0;
}
```