char数组入门

人员

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作业

https://www.luogu.com.cn/contest/211568

课堂表现

大部分同学听讲很认真，存在有几个同学听讲不认真被老师批评了，希望以后进行改正。

课堂内容

U493751 判断是否排好队

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

using namespace std;

const int maxn = 10 + 5;
int w[maxn];
int a[maxn];

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

    sort(w+1, w+n+1);
    bool flag = true;
    for (int i = 1; i <= n; ++i) {
        if (a[i] != w[i]) flag = false;
    }
    if (flag == true) {
        cout << "Good" << endl;
        return 0;
    }

    reverse(w+1, w+n+1);
    flag = true;
    for (int i = 1; i <= n; ++i) {
        if (a[i] != w[i]) flag = false;
    }
```

```
    if (flag == true) {
        cout << "Good" << endl;
        return 0;
    }

    cout << "No" << endl;
    return 0;
}
```

U493757 数的排序

```
#include <iostream>

using namespace std;

int a[15];

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

    for (int i = 1; i <= n; i++) {
        // 拆位，重新改 a[i] 的值
        int sum = 0;
        while (a[i]!=0) {
            int t = a[i]%10;
            a[i]/=10;
            sum += t;
        }

        a[i]=sum;
    }

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

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

```
    return 0;
}
```

U493753 加工

```
#include<bits/stdc++.h>
using namespace std;
int a[101];
int main(){
    int m,n;
    cin>>m>>n;
    for(int i=1;i<=n;i++){
        cin>>a[i];
    }
    if(m==0){
        cout<<"0";
        return 0;
    }
    sort(a+1,a+n+1);
    int j=0;
    for(int i=n;i>=1;i--){
        if(m>0){
        m-=a[i];
        j++;
        }
    }
    if(m<=0){
        cout<<j;
    }
    else {
        cout<<"NO";
    }
    return 0;
}
```

U493749 分数线划定

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

using namespace std;

int a[1005];

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

```
  }
  int x; cin >> x;
  sort(a+1, a+n+1);
  reverse(a+1, a+n+1);
  cout << a[x] << endl;
  return 0;
}
```

U490153 coin

1. a[1] = 1!, a[2] = 2!, a[3] = 3!, ..., a[10] = 10!

2. 一共要 n 元

    从后往前看：i：10->1

        第 i 个硬币可以表示 a[i] 元

        需要用 n / a[i] 个，用完之后：n %= a[i]

```
#include <iostream>

using namespace std;

int a[11];

int main()
{
    int n;
    cin >> n;

    for (int i = 1; i <= 10; i++) {
        a[i] = 1;
        for (int j = 1; j <= i; j++) {
            a[i] *= j;
        }
    }

    int cnt = 0;
    for (int i = 10; i >= 1; i--) {
        cnt += n / a[i];
        n %= a[i];
    }

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

char 数组

```
#include <iostream>
#include <cstring>

using namespace std;

char a[105];  // 默认是 '\0'

int main()
{
    cin >> (a+1);  // 从 a[1] 开始输入数组
    cout << (a+1);  // 从 a[1] 开始输出数组

    cin.getline(a+1, 105);  // 读空格的时候，需要用这种输入方法
    int n = strlen(a+1);  // 从 a[1] 开始，求 a 数组的长度，需要用头文件
#include<cstring>
    for (int i = 1; i <= n; i++) {  // 遍历 a 数组
        if (a[i] == 'a') {
            cnt++;
        }
    }
    cout << "n = " << n << endl;

    char c;
    cin >> c;
    if (c >= '0' && c <= '9') {  // 判断一个字符是否在 0 ~ 9 之间

    }
    if (c>='A' && c<='Z') {  // 判断一个字符是否在 A ~ Z 之间
        c = c - 'A' + 'a';  // 转小写
    }
    if (c>='a' && c<='z') {  // 判断一个字符是否在 a ~ z 之间
        c = c - 'a' + 'A';  // 转大写
    }

    return 0;
}
```

U498433 找数字个数

```
#include <iostream>
#include <cstdio>
#include <cstring>

using namespace std;

char s[260];

int main()
```

```
{
    cin.getline(s+1,260);
    int len = strlen(s+1);
    int cnt = 0;
    for (int i = 1; i <= len; i++) {
        if (s[i]>='0' && s[i]<='9') {
            cnt++;
        }
    }
    cout << cnt << endl;
    return 0;
}
```