

CS150

算法专题 集训

Day2



阅读程序写结果

```
1. #include <iostream>
   using namespace std;
```

```
int main() {
    int max, min, sum, count = 0;
    int tmp;
    cin >> tmp;
    if (tmp == 0)
        return 0;
    max = min = sum = tmp;
    count++;
    while (tmp != 0) {
        cin >> tmp;
        if (tmp != 0) {
            sum += tmp;
            count++;
            if (tmp > max)
                max = tmp;
            if (tmp < min)
                min = tmp;
        }
    }
    cout << max << "," << min << "," << sum / count << endl;
    return 0;
}
```

输入: 1 2 3 4 5 6 0 7

输出: _____

```
1. #include <iostream>
using namespace std;
int main() {
    int a, b, c;
    a = 1;
    b = 2;
    c = 3;
    if (a > b) {
        if (a > c)
            cout << a << ' ';
        else
            cout << b << ' ';
    }
    cout << c << endl;
    return 0;
}
```

输出: _____

```
1. #include <iostream>
   using namespace std;
```

```
int main()
{
    int a, b;
    cin>>a>>b;
    cout<<a<<"+"<<b<<"="<<a+b<<endl;
}
```

输入： 3 5

输出： _____

1.

```
#include <iostream>
using namespace std;
int a, b, c, d, e, ans;
int main()
{
    cin>>a>>b>>c;
    d=a+b;
    e=b+c;
    ans=d+e;
    cout<<ans<<endl;
    return 0;
}
```

输入： 1 2 5

输出： _____

```
2. #include <iostream>
   using namespace std;

   int main() {

       int i = 100, x = 0, y = 0;
       while (i > 0) {
           i--;
           x = i % 8;
           if (x == 1)
               y++;
       }
       cout << y << endl;
       return 0;
   }
```

输出: _____

```
2. #include <iostream>
using namespace std;
struct point {
    int x;
    int y;
};
int main() {
    struct EX {
        int a;
        int b;
        point c;
    } e;
    e.a = 1;
    e.b = 2;
    e.c.x = e.a + e.b;
    e.c.y = e.a * e.b;
    cout << e.c.x << ',' << e.c.y << endl;
    return 0;
}
```

输出: _____


```
2. #include <iostream>
    using namespace std;

    int main()
    {
        int a, b, u, i, num;

        cin>>a>>b>>u;
        num = 0;
        for (i = a; i <= b; i++)
            if ((i % u) == 0)
                num++;
        cout<<num<<endl;
        return 0;
    }
```

输入: 1 100 15

输出: _____

2.

```
#include <iostream>
using namespace std;
int n, i, ans;
int main()
{
    cin>>n;
    ans=0;
    for(i=1;i<=n;i++)
        if(n%i==0) ans++;
    cout<<ans<<endl;
    return 0;
}
```

输入： 18

输出： _____

3. `#include <iostream>`
`using namespace std;`

```
int main() {  
    int a[6] = {1, 2, 3, 4, 5, 6};  
    int pi = 0;  
    int pj = 5;  
    int t , i;  
    while (pi < pj) {  
        t = a[pi];  
        a[pi] = a[pj];  
        a[pj] = t;  
        pi++;  
        pj--;  
    }  
    for (i = 0; i < 6; i++)  
        cout << a[i] << ",";  
    cout << endl;  
    return 0;  
}
```

输出: _____

```
#include <iostream>
#include <string>
using namespace std;
int main() {
    string str;
    int i;
    int count;
    count = 0;
    getline(cin, str);
    for (i = 0; i < str.length(); i++) {
        if(str[i] >= 'a' && str[i] <= 'z')
            count++;
    }
    cout << "It has " << count << " lowercases" << endl;
    return 0;
}
```

输入: NOI2016 will be held in Mian Yang.

输出: _____

```
3. #include <iostream>
#include <string>
using namespace std;

int main()
{
    string st;
    int i, len;
    getline(cin, st);
    len = st.size();
    for (i = 0; i < len; i++){
        if (st[i] >= 'a' && st[i] <= 'z')
            st[i] = st[i] - 'a' + 'A';
    }
    cout << st << endl;
    return 0;
}
```

输入: Hello, my name is Lostmonkey.

输出: _____

```

3. #include <iostream>
using namespace std;

int main()
{
    const int SIZE = 100;

    int n, f, i, left, right, middle, a[SIZE];

    cin>>n>>f;
    for (i = 1; i <= n; i++)
        cin>>a[i];

    left = 1;
    right = n;
    do {
        middle = (left + right) / 2;
        if (f <= a[middle])
            right = middle;
        else
            left = middle + 1;
    } while (left < right);
    cout<<left<<endl;
    return 0;
}

```

输入:

12 17

2 4 6 9 11 15 17 18 19 20 21 25

输出: _____

#include <iostream>	cout<<solve(1, 1)<<endl;
using namespace std;	return 0;
int n, i, j, a[100][100];	}
int solve(int x, int y)	输入:
{	5
int u, v;	2
if(x==n) return a[x][y];	-1 4
u=solve(x+1, y);	2 -1 -2
v=solve(x+1, y+1);	-1 6 4 0
if(u>v) return a[x][y]+u;	3 2 -1 5 8
else return a[x][y]+v;	输出: _____
}	
int main()	
{	
cin>>n;	
for(i=1; i<=n; i++)	
for(j=1; j<=i; j++) cin>>a[i][j];	

```
4. #include <iostream>
   using namespace std;

   int main() {
       int i, length1, length2;
       string s1, s2;
       s1 = "I have a dream.";
       s2 = "I Have A Dream.";
       length1 = s1.size();
       length2 = s2.size();
       for (i = 0; i < length1; i++)
           if (s1[i] >= 'a' && s1[i] <= 'z')
               s1[i] -= 'a' - 'A';
       for (i = 0; i < length2; i++)
           if (s2[i] >= 'a' && s2[i] <= 'z')
               s2[i] -= 'a' - 'A';
       if (s1 == s2)
           cout << "=" << endl;
       else if (s1 > s2)
           cout << ">" << endl;
       else
           cout << "<" << endl;
       return 0;
   }
```

输出: _____


```
4. #include <iostream>
using namespace std;
void fun(char *a, char *b) {
    a = b;
    (*a)++;
}
int main() {
    char c1, c2, *p1, *p2;
    c1 = 'A';
    c2 = 'a';
    p1 = &c1;
    p2 = &c2;
    fun(p1, p2);
    cout << c1 << c2 << endl;
    return 0;
}
```

输出: _____

```

4. #include <iostream>
   using namespace std;

   const int SIZE = 100;

   int main()
   {
       int p[SIZE];
       int n, tot, i, cn;
       tot = 0;
       cin >> n;
       for (i = 1; i <= n; i++)
           p[i] = 1;

```

```

       for (i = 2; i <= n; i++){
           if (p[i] == 1)
               tot++;
           cn = i * 2;
           while (cn <= n) {
               p[cn] = 0;
               cn += i;
           }
       }
       cout << tot << endl;
       return 0;

```

输入: 30

输出: _____

```

#include <iostream>
using namespace std;

int main()
{
    const int SIZE = 100;
    int height[SIZE], num[SIZE], n, ans;
    cin>>n;
    for (int i = 0; i < n; i++) {
        cin>>height[i];
        num[i] = 1;
        for (int j = 0; j < i; j++) {
            if ((height[j] < height[i]) && (num[j] >= num[i]))
                num[i] = num[j]+1;
        }
    }
    ans = 0;
    for (int i = 0; i < n; i++) {
        if (num[i] > ans) ans = num[i];
    }
    cout<<ans<<endl;
}

```

输入:

6

2 5 3 11 12 4

输出: _____

```

#include <iostream>
#include <string>
using namespace std;
int n, i, j, ans;
string s;
char get(int i)
{
    if(i<n) return s[i];
    else return s[i-n];
}

for(i=1;i<=n-1;i++)
{
    for(j=0;j<=n-1;j++)
        if(get(i+j)<get(ans+j))
        {
            ans=i;
            break;
        }
    else if(get(i+j)>get(ans+j)) break;
    for(j=0;j<=n-1;j++) cout<<get(ans+j);
    cout<<endl;
    return 0;
}

int main()
{
    cin>>s;
    n=s.size();
    ans=0;
}

```

输入: CBBADADA
 输出: _____

完善程序

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