嵌套循环练习

人员

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上周作业检查

上周作业链接: https://cppoj.kids123code.com/contest/2452

比赛概况 题目列表 选择题列表 提交记录 ★ 实时榜单

王向东老师周六三点半C++嵌套循环图形输出练习

刷新

#	用户名	姓名	编程分	时间	A	B	C	D	E	F	G	H	I	J	K	L
1	zhaotingshu	赵庭澍	1900	6	100	100	100	100	100	100	100	100	100	100	100	100
2	lihonghao	李弘浩	1900	10	100	100	100	100	100	100	100	100	100	100	100	100
3	hepeiyu	何佩瑜	1900	12	100	100	100	100	100	100	100	100	100	100	100	100
4	xuchenxiao123	许宸逍	1900	13	100	100	100	100	100	100	100	100	100	100	100	100
5	wangchunshuo	王纯硕	1900	15	100	100	100	100	100	100	100	100	100	100	100	100
6	chenyiqi	陈奕圻	1900	24	100	100	100	100	100	100	100	100	100	100	100	100
7	zhangjiarui	张嘉芮	1800	37	100	100	100	100	100	100	100	100	100	100	100	100
8	maxinyi	马欣怡	1500	9	100	100	100	100	100	100	100	100	100	100	100	100
9	liuchenxi123	刘晨锡	1210	2	100	100	100	100		100	100	100	100	100	100	100

作业

https://cppoj.kids123code.com/contest/2582 (作业是 A ~ H 题必做)

课堂表现

今天的嵌套循环内容比起之前的题目就是会难一些, 同学们课上觉得难是正常的, 慢慢学几节课就会接受的越来越好的。

课堂内容

求1!+2!+...+N!

```cpp
#include <iostream>

using namespace std;

int main() {
    int n;
    cin >> n;
    int sum = 0;
    for (int i = 1; i <= n; i++) {
        int t = 1;
```

```
        for (int j = 1; j <= i; j++) {
            t *= j;
        }
        sum += t;
    }
    cout << sum << endl;
    return 0;
}
```

多项式求和

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

using namespace std;

int main()
{
    int n; cin >> n;
    int sum = 0;
    for (int i = 1; i <= n; ++i) {
        int res = 1;
        for (int j = 1; j <= i; ++j) {
            res *= j;
        }
        if (i%2 == 1) sum += res;
        else sum -= res;
    }
    cout << sum << endl;
    return 0;
}
```

求1~n中每个数的因子有哪些?

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

using namespace std;

int main()
{
    int n; cin >> n;
    for (int i = 1; i <= n; ++i) {
        cout << i << ":";
        for (int j = 1; j <= i; ++j) {
            if (i%j == 0) {
                cout << j << " ";
            }
        }
        cout << endl;
```

```
    }
    return 0;
}
```

求因子数量

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

using namespace std;

int main()
{
    int n; cin >> n;
    for (int i = 1; i <= n; ++i) {
        int cnt = 0;
        for (int j = 2; j < i; ++j) {
            if (i%j == 0) {
                cnt++;
            }
        }
        cout << cnt << endl;
    }
    return 0;
}
```

请输出n行的9*9乘法表

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

using namespace std;

int main()
{
    int n; cin >> n;
    for (int i = 1; i <= n; ++i) {
        for (int j = 1; j <= i; ++j) {
            cout << i << "*" << j << "=" << i*j << " ";
        }
        cout << endl;
    }
    return 0;
}
```

姐妹数对

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

using namespace std;

int main()
{
    int n, cnt = 0;
    cin>>n;
    for (int i = 1; i <= n; i++) {
        for (int j = i+1; j <= n; j++) {
            if ((i+j)%3==0||(i+j)%7==0) {
                cnt++;
            }
        }
    }
    cout << cnt << endl;
    return 0;
}
```

空心正方形

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

using namespace std;

int main()
{
    int n;
    cin>>n;
    for (int i = 1; i <= n; i++) {
        for (int j = 1; j <= n; j++) {
            if (i==1||i==n||j==1||j==n) {
                cout << "*";
            }
            else {
                cout << " ";
            }
        }
        cout << endl;
    }
    return 0;
}
```

打印空心等腰三角形

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

```cpp
using namespace std;

int main()
{
    int n;
    cin>>n;
    for (int i = 1, c = 1; i <= n; i++, c+=2) {
        for (int j = 1; j <= n-i; j++) {
            cout << " ";
        }
        for (int j = 1; j <= c; j++) {
            if (i==1||i==n||j==1||j==c) {
                cout << "*";
            }
            else {
                cout << " ";
            }
        }
        cout << endl;
    }
    return 0;
}
```