

穷举法学习

人员

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上周作业检查

上周作业链接: <https://cppoj.kids123code.com/contest/2581>

王向东老师周六一点半C++嵌套循环练习														
#	用户名	姓名	编程分	时间	A	B	C	D	E	F	G	H	I	J
1	suihaochen	隋深琛	1000	348	100	100	100	100	100	100	100	100	100	100
2	chenyunsheng	陈允升	1000	354	100	100	100	100	100	100	100	100	100	100
3	huojingming	霍佳铭	1000	387	100	100	100	100	100	100	100	100	100	100
4	chuxingyi	初星熠	1000	391	100	100	100	100	100	100	100	100	100	100
5	zhanggao	张高	1000	402	100	100	100	100	100	100	100	100	100	100
6	zangchenyun	臧晨云	900	360	100	100	100	100	100	100	100	100	100	100
7	linyuming	林钰明	800	322	100	100	100	100	100	100	100	100	100	100
8	chenzhiheng	陈之恒	800	345	100	100	100	100	100	100	100	100	100	100
9	liukeyang	刘克阳	800	355	100	100	100	100	100	100	100	100	100	100
10	liuzichen123	刘子郴	800	356	100	100	100	100	100	100	100	100	100	100
11	liuyinan	刘奕男	700	250	100	100	100	100	100	100	100	100	100	100
12	quyxuan	赵裕轩	600	343	100	100	100	100	100	100	100	100	100	100
13	yuhaohua	于昊华	600	373	100	100	100	100	100	100	100	100	100	100
14	lijingxuan	李景翩	500	234	100	100	100	100	100	100	100	100	100	100
15	zaoyuxuan	赵招轩	400	219	100	100	100	100	100	100	100	100	100	100

作业

<https://cppoj.kids123code.com/contest/2681> (作业是 A ~ I 题必做)

课堂表现

今天主要讲了嵌套循环实现穷举法的内容, 同学们课上整体掌握的都不错。

今天的 H 题设计时间复杂度的改进, 这道题目同学们目前能了解概念, 得到 88 分即可, 不是必须得到 100 分。

课堂内容

We Love Golf

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

using namespace std;

int main()
{
    int k,a,b;
    cin>>k>>a>>b;
    int cnt=0;
```

```

for(int i=a;i<=b;i++){
    if(i%k==0){
        cnt++;
    }
}
if(cnt==0){
    cout<<"NG";
}
else{
    cout<<"OK";
}
return 0;
}

```

子数整除

```

#include <iostream>
using namespace std;
int main() {
    int k;
    cin >> k;
    int cnt = 0;
    for (int i = 10000; i <= 30000; i++) {
        int sub1 = i/100;
        int sub2 = (i/10)%1000;
        int sub3 = i%1000;
        if (sub1%k==0 && sub2%k==0 && sub3%k==0) {
            cout << i << endl;
            cnt++;
        }
    }
    if (cnt == 0) {
        cout << "No" << endl;
    }
    return 0;
}

```

鸡兔同笼plus

```

#include <bits/stdc++.h>

using namespace std;

int main()
{
    int a, b; cin >> a >> b;
    for (int i = 0; i <= a; i++) {
        for (int j = 0; j <= b; j++) {

```

```
    if (i+j==a && i*4+j*2==b) {
        cout << i << " " << j << endl;
    }
}
return 0;
}
```

买小猫小狗

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

using namespace std;

int main()
{
    int x, a, b;
    cin >> x >> a >> b;
    int cnt = 0;
    for (int i = 1; i <= x; i++) {
        for (int j = 1; j <= x; j++) {
            if (i*a+j*b==x) {
                cnt++;
            }
        }
    }
    cout << cnt << endl;
    return 0;
}
```

采购水果

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

using namespace std;

int main()
{
    int n, x, y, cnt = 0;
    cin >> n >> x >> y;
    for (int i = 10; i <= n; i++) {
        for (int j = 10; j <= n; j++) {
            if (i*x+j*y==n) {
                cnt++;
            }
        }
    }
    cout << cnt << endl;
```

```
    return 0;
}
```

百钱百鸡问题

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    for (int i = 1; i <= 100; i++) {
        for (int j = 100; j >= 1; j--) {
            for (int k = 3; k <= 300; k+=3) {
                if (i*5+j*3+k/3==100&&i+j+k==100) {
                    cout << i << " " << j << " " << k << endl;
                }
            }
        }
    }
    return 0;
}
```

购买文具

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    int n, cnt = 0;
    cin>>n;
    for (int i = 1; i <= 10*n; i++) {
        for (int j = 1; j <= 10*n; j++) {
            for (int k = 1; k <= 10*n; k++) {
                if ((i+j+k>30)&&(i*8+j*2+k==10*n)) {
                    cnt++;
                }
            }
        }
    }
    cout<<cnt<<endl;
    return 0;
}
```

桐桐去购物

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    int n,m;
```

```
cin>>n>>m;
for (int i = 0; i <= m; i++) {
    for (int j = 0; j <= m; j++) {
        int k = m-i-j;
        if (i*5+j*3+k/3==n&&k%3==0&&k>=0) {
            cout << i << " " << j << " " << k << endl;
        }
    }
}
return 0;
}
```

怎样种树?

```
#include<bits/stdc++.h>
using namespace std;
int main(){
    int n;
    cin>>n;
    for (int i = 2; i <= n; i+=2) {
        for (int j = 2; j <= n; j+=2) {
            for (int k = 2; k <= n; k+=2) {
                if (i+j+k==n&&i<=j&&j<=k) {
                    cout << i << " " << j << " " << k << endl;
                }
            }
        }
    }
    return 0;
}
```