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/2582

王向东老师周六三点半C++嵌套循环练习

刷新

#	用户名	姓名	编程分	时间	A	B	C	D	E	F	G	H
1	maxinyi	马欣怡	800	350	100	100	100	100	100	100	100	100
2	chenyiqi	陈奕圻	800	365	100	100	100	100	100	100	100	100
3	hepeiyu	何佩瑜	800	373	100	100	100	100	100	100	100	100
4	wangchunshuo	王纯硕	800	424	100	100	100	100	100	100	100	100
5	zhangjiarui	张嘉芮	702	268	100	100	100	100	100	2	100	100
6	quyuxuan	屈钰轩	700	332	100	100	100	100	100	100	100	0
7	zhaotingshu	赵庭澍	700	339	100	100	100	100	100	100	100	
8	xuchenxiao123	许宸逍	600	326	100	100	100	100	100	100		
9	pengjunwen	彭俊文	400	268	100	100	100	100				

作业

https://cppoj.kids123code.com/contest/2682 (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

```cpp
#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

```cpp
#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

```cpp
#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

```cpp
#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

```cpp
#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

```cpp
#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

```cpp
#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

```cpp
#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?

```cpp
#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;
}
```