

The background features a central composition of watercolor brushstrokes. A large, irregular blue shape is centered, with two horizontal red brushstrokes crossing it. The text 'UVA10929' is printed in a dark red, serif font across the middle of the red strokes. In the top-left and bottom-right corners, there are small, stylized blue leaves. Additionally, there are small yellow circular accents: three near the top-left of the blue shape and three near the bottom-right.

UVA10929



題目

Your job is, given a positive number N , determine if it is a multiple of eleven.

你的任務是，給你一個正整數 N ，判定它是否是 11 的倍數。

輸入與輸出

Input : The input is a file such that each line contains a positive number. A line containing the number '0' is the end of the input. The given numbers can contain up to 1000 digits.

Output : The output of the program shall indicate, for each input number, if it is a multiple of eleven or not.

輸入：每列資料有一個正整數 N ， N 最大可能到 1000 位數。
若 $N = 0$ 代表輸入結束。

輸出：對每個輸入的數，輸出是否為 11 的倍數。輸出格式請參考範例輸出。

範例測資

Input :

112233

30800

2937

323455693

5038297

112234

0

Output :

112233 is a multiple of 11.

30800 is a multiple of 11.

2937 is a multiple of 11.

323455693 is a multiple of 11.

5038297 is a multiple of 11.

112234 is not a multiple of 11.

程式碼說明

Step 1：輸入測資

```
5 int main() {  
6     string s;  
7     while (cin >> s, s != "0") {
```

已宣告變數

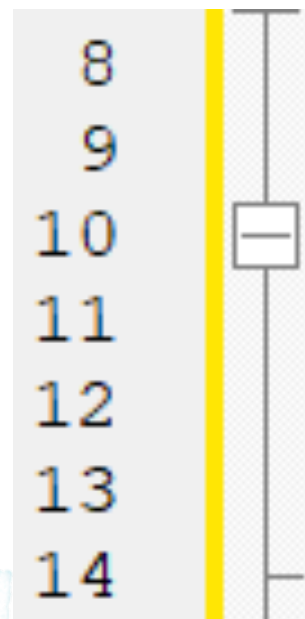
s

註解

所輸入的正整數

程式碼說明

Step 2：輸出正整數並計算奇數位與偶數位差值



```
cout<<s;
int n=0,multiple=0;
for(int i:s){
    n++;
    i-='0';
    multiple+=i*pow(-1,n);
}
```

已宣告變數

註解

s

所輸入的正整數

n

判斷奇數位或偶數位

multiple

差值

程式碼說明

Step 3：判斷差值是否被11整除並輸出

15
16
17
18

```
if(multiple%11==0)
    cout<<" is a multiple of 11.\n";
else
    cout<<" is not a multiple of 11.\n";
```

已宣告變數

註解

s

所輸入的正整數

n

判斷奇數位或偶數位

multiple

差值

完整程式碼

```
1 #include<iostream>
2 #include<string>
3 #include<cmath>
4 using namespace std;
5 int main(){
6     string s;
7     while (cin>>s, s!="0"){
8         cout<<s;
9         int n=0,multiple=0;
10        for(int i:s){
11            n++;
12            i-='0';
13            multiple+=i*pow(-1,n);
14        }
15        if(multiple%11==0)
16            cout<<" is a multiple of 11.\n";
17        else
18            cout<<" is not a multiple of 11.\n";
19    }
20 }
```




資料來源

英文題目：

<https://vjudge.net/problem/UVA-10929>

中文翻譯：

<https://zerojudge.tw/ShowProblem?problemid=d235>



Thanks!

