H. Three Integers

time limit per test

2 seconds

memory limit per test

256 megabytes

input

standard input

output

standard output

You are given three integers a≤b≤c�≤�≤�.

In one move, you can add +1+1 or −1−1 to **any** of these integers (i.e. increase or decrease any number by one). You can perform such operation any (possibly, zero) number of times, you can even perform this operation several times with one number. **Note that you cannot make non-positive numbers using such operations**.

You have to perform the minimum number of such operations in order to obtain three integers A≤B≤C�≤�≤� such that B� is divisible by A� and C� is divisible by B�.

You have to answer t� independent test cases.

**Input**

The first line of the input contains one integer t� (1≤t≤1001≤�≤100) — the number of test cases.

The next t� lines describe test cases. Each test case is given on a separate line as three space-separated integers a,b�,� and c� (1≤a≤b≤c≤1041≤�≤�≤�≤104).

**Output**

For each test case, print the answer. In the first line print res��� — the minimum number of operations you have to perform to obtain three integers A≤B≤C�≤�≤� such that B� is divisible by A� and C� is divisible by B�. On the second line print **any** suitable triple A,B�,� and C�.

**Example**

**input**

**Copy**

8

1 2 3

123 321 456

5 10 15

15 18 21

100 100 101

1 22 29

3 19 38

6 30 46

**output**

**Copy**

1

1 1 3

102

114 228 456

4

4 8 16

6

18 18 18

1

100 100 100

7

1 22 22

2

1 19 38

8

6 24 48