### COCI '08 Contest 4 #5 Trezor

#### **Time Limit:** 3.0s **Memory Limit:** 32M

Mirko decided to open a new business – bank vaults. A branch of the bank can be visualized in a plane, vaults being points in the plane. Mirko's branch contains exactly  $L \cdot (A+1+B)$  vaults, so that each point with integer coordinates inside the rectangle with corners (1, -A) and (L, B) contains one vault.

The vaults are watched by two guards – one at (0, -A), the other at (0, B). A guard can see a vault if there are no other vaults on the line segment connecting them.

A vault is not secure if neither guard can see it, secure if only one guard can see it and super-secure if both guards can see it.

Given A, B and L, output the number of insecure, secure and super-secure vaults.

#### **Input Specification**

The first line contains integers A and B separated by a space  $(1 \le A \le 2000, 1 \le B \le 2000)$ . The second line contains the integer L  $(1 \le L \le 1\,000\,000\,000)$ .

### **Output Specification**

Output on three separate lines the numbers of insecure, secure and super-secure vaults.

#### **Scoring**

In test cases worth 50% of points, L will be at most 1000.

In test worth another 25% of points, A and B will be at most 100 (but L can be as large as one billion).

#### Sample Input 1

1 1

3

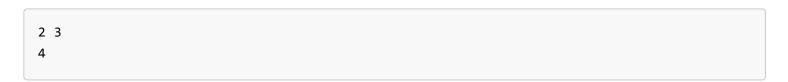
#### **Sample Output 1**

2

2

5

### **Sample Input 2**



# **Sample Output 2**

```
0
16
8
```

# Sample Input 3

```
7 11
1000000
```

# **Sample Output 3**

```
6723409
2301730
9974861
```