

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

The first line contains integers A and B separated by a space ($1 \leq A \leq 2000$, $1 \leq B \leq 2000$).

The second line contains the integer L ($1 \leq L \leq 1000000000$).

OUTPUT

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).

EXAMPLES

input 1 1 3	input 2 3 4	input 7 11 1000000
output 2 2 5	output 0 16 8	output 6723409 2301730 9974861