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 ($1 \le A \le 2000$, $1 \le B \le 2000$). The second line contains the integer L ($1 \le L \le 10000000000$).

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