

Power Modulo Inverted

Given 3 positive integers x , y and z , you can find $k = x^y \% z$ easily, by fast power-modulo algorithm. Now your task is the inverse of this algorithm. Given 3 positive integers x , z and k , find the smallest non-negative integer y , such that $k \% z = x^y \% z$.

Input

About 600 test cases.

Each test case contains one line with 3 integers x , z and k . ($1 \leq x, z, k \leq 10^9$)

Input terminates by three zeroes.

Output

For each test case, output one line with the answer, or "No Solution" (without quotes) if such an integer doesn't exist.

Example

Input:

5 58 33

2 4 3

0 0 0

Output:

9

No Solution