

C. Diophantine equation

time limit per test: 2 seconds

memory limit per test: 256 megabytes

input: standard input

output: standard output

You are given an equation $A * X + B * Y = C$, A, B, C are positive integer coefficients, X and Y are variables which can have positive integer values only. Output the number of solutions of this equation and the solutions themselves.

Input

The only line of input contains integers A, B and C ($1 \leq A, B, C \leq 1000$), separated with spaces.

Output

In the first line of the output print the number of the solutions N . In the next N lines print the solutions, formatted as " XY ", sorted in ascending order of X , one solution per line.

Examples

input
3 5 35
output
2 5 4 10 1

input
3 35 5
output
0