

D. Exponentiation

time limit per test: 2 seconds

memory limit per test: 64 megabytes

input: standard input

output: standard output

You are given integers a , b and c . Calculate a^b modulo c .

Input

Input data contains numbers a , b and c , one number per line. Each number is an integer between 1 and 100, inclusive.

Output

Output $a^b \bmod c$.

Examples

input
2 5 40
output
32

input
2 5 26
output
6