

Problem I. Euclid's Algorithm

Input file: *standard input*
Output file: *standard output*
Time limit: 1 second
Memory limit: 256 mebibytes

Euclid's *algorithm* is one of the oldest algorithms known to mankind. It is used to find greatest common divisor of two given numbers. Your program should also take two numbers and find a greatest common divisor. And may Euclid be with you.

I give you two positive integers d and k . Your task is to find the largest integer that divides $(a + d)^k - a^k$ for every positive integer a .

Input

The only line contains two integers d and k ($1 \leq d, k < 10^{100}$).

Output

Print a single integer — the largest integer that divides $(a + d)^k - a^k$ for every positive integer a .

Example

standard input	standard output
2 2	4