

Congruence Equation

Problem Description

Find the smallest positive integer solution to the congruence equation $ax = 1 \pmod{b}$ with respect to x .

Input

One line, containing two positive integers a , and b , separated by a space.

Output

There is a positive integer x_0 , which is the smallest positive integer solution. The input data is guaranteed to have a solution.

Sample Input

3 10

Sample Output

7

Hint

[Data Range]

For 40% of the data, $2 \leq b \leq 1,000$;

For 60% of the data, $2 \leq b \leq 50,000,000$;

For 100% of the data, $2 \leq a, b \leq 2,000,000,000$.