Euclid's GCD
Problem ID: a03p09euclidsgcd

One of the oldest known algorithms is a method for finding the greatest common divisor of two natural numbers. It turns out that you have already learned all you need to implement it.

Given two numbers a and b, we keep doing the following until b becomes 0:

- Calculate the remainder of dividing a by b,

- update a to be the previous value of b and b to be the value of the remainder.

If at any time b is 0, then a is the greatest common divisor of the original two numbers.

Input

Input consists of two lines. The first line consists of one integer a, where $0 \le a \le 10^{18}$. The second line consists of one integer b, where $0 \le b \le 10^{18}$.

Output

Output the greatest common divisor of a and b.

Sample Input 1	Sample Output 1
0 3	3

Sample Input 2	Sample Output 2
12 15	3

Sample Input 3	Sample Output 3
15 28	1

Sample Input 4	Sample Output 4
204 564	12

Sample Input 5	Sample Output 5
1495 715	65