

Professor Numerico is going big this time. First, he selects three numbers: N , a , and b . Then he builds number A by repeating N a times, and builds number B by repeating N b times. For example, if $N = 123$, $a = 2$, and $b = 3$, then $A = 123123$ and $B = 123123123$.

After building the two numbers, he gives them to Dumdum and asks him to find the greatest common divisor (GCD) of A and B . Dumdum isn't sure how to approach the problem and needs your help!

Input Format

A single line containing three space-separated positive integers: N , a , and b .

Constraints

All numbers are positive and less than or equal to 10^{18} .

Output Format

Print the GCD of A and B on a single line. The length of the result will not exceed 10^6 .

Sample Input

```
123 2 3
```

Sample Output

```
123
```

Explanation

123 is the greatest common divisor of both **123123** and **123123123**.