

Problem A. Notepad

Input file: notepad.in
Output file: notepad.out
Time limit: 2 seconds
Memory limit: 256 megabytes

You like everything non-standart. Even decimal number system doesn't attract you anymore, so you decided to go for other number systems.

Base b number system captured your attention. For a good start in studying it, you want to write all numbers of length n without leading zeroes in your notepad. Every sheet of paper in your notepad has enough space to have exactly c numbers written on it. You write numbers one by one, starting from the top of the first clean sheet of paper, and you don't leave any free space.

How many numbers will the sheet of paper on which you write the last number contain?

Input

The only line of the input file contains three integer numbers b , n and c ($2 \leq b \leq 10^{10^6}$, $1 \leq n \leq 10^{10^6}$, $1 \leq c \leq 10^9$).

You may assume that you have an infinite supply of digit images, patience, and sheets of paper.

Output

Output the amount of numbers written on the last sheet of paper.

Examples

notepad.in	notepad.out
2 3 3	1
2 3 4	4

Note

There are 4 possible binary numbers of length 3. In the first example you write 3 numbers on the first sheet and 1 number on the second. In the second example all 4 numbers can be written on one sheet of paper.