Problem L. Wise man

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	64 mebibytes

Dzoni, a wise man from Serbia, knows the answers for all of the world's questions except one ?! Can you solve this question for him:

On the first day you are given a number A. Every following day, your number A will be changed in following way: $A = (A + biggestDigit(A)) \ mod \ M$. Can you predict the number at the N-th day?

The function $biggestDigit(A)$ returns the digit with the biggest value in the number A. For example: $biggestDigit(172) = 7$.

Input

The single line of input contains three numbers, A ($1 \le A < M$), M ($1 \le M \le 10^{18}$) and N ($1 \le N \le 10^{18}$).

Output

In the single line, print the value of A at the N-th day.

Examples

standard input	standard output
2014 2015 1	2014
14 25 115	16