Problem C
Counting Palindromes
Problem ID: countingpalindromes

A palindrome number is a non-negative number without leading zeroes, that reads the same forward or backward. For example, 12321, 44 and 9 are palindrome numbers, while 010, 123 and 100 are not.

Given a positive integer n, a prime number p and a non-negative integer k less than p. A palindrome number x is called a good palindrome, iff x is equal to k modulo p. In other words, the remainder when x is divided by p equals k.

Please count the number of good palindromes with exactly n digits. As this number can be very large, please calculate the result modulo $10^9 + 7$.

Input

The input contains 3 integers n, p and k ($1 \le n \le 10^{18}, 2 \le p \le 1\,000, 0 \le k < p$). It is guaranteed that p is a prime.

Output

Output a single integer — the number of good palindromes with exactly n digits, modulo $10^9 + 7$.

Explanation of Sample input

The good palindromes are 0, 2, 4, 6 and 8.

Sample Input 1	Sample Output 1
1 2 0	5