Cool Numbers

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	256 megabytes

You are given a positive integer $n \geq 2$, and an integer c such that $c \geq 0$ and $c \leq 9$. An $n-$digit positive number is said to be *cool* if the difference between any two consecutive digits of it (any digit d is an integer such that $d \geq 0$, $d \leq 9$) is atmost c. Your task is to count the number of numbers which are *cool*.

More formally, if $a_1, a_2, a_3, ...a_n$ are the digits of an n digit number which is *cool*, then for each $i \in \mathbb{N}$, $n \geq i \geq 2$, the condition $|a_i - a_{i-1}| \leq c$ must hold. Also, the first digit of the number (a_1) cannot be 0.

Since the answer might be too large, output it modulo $10^9 + 7$, i.e., output the remainder of the answer when it is divided by $10^9 + 7$.

Input

The input consists of a single line of two space separated integers n ($2 \leq n \leq 10^5$) and c ($0 \leq c \leq 9$).

Output

In a single line, output the number of numbers which are *cool* according to the given n and c modulo $10^9 + 7$.

Examples

standard input	standard output
3 0	9
2 1	26

Note

In the first test case, as $c = 0$, all the digits of the $3-$digit number must be the same. Hence the only possible *cool* numbers are $111, 222, 333, 444, 555, 666, 777, 888, 999$.

In the second test case, as $c = 1$, the maximum value of the difference between the only 2 digits is 1. The number of *cool* numbers with this difference as 0 is 9 (just like the first test case). Now, when the difference is 1, if the first digit a_1 lies between 1 and 8 (inclusive), there are 2 possibilities for each case. When the first digit is 9, the only possibility is 98. So answer $= 9 + 2 \times 8 + 1 = 26$.