Problem M
Millionplex

We are quite familiar with some of the names of large numbers like: million (10^6), billion (10^9) or trillion (10^{12}). But there are a lot more names which are unfamiliar, such as: quadrillion (10^{15}), quintillion (10^{18}), sextillion (10^{21}), septillion (10^{24}), octillion (10^{27}), nonillion (10^{30}), decillion (10^{33}), undecillion (10^{36}), duodecillion (10^{39}), tredecillion (10^{42}), quattuordecillion (10^{45}), quindecillion (10^{48}), sexdecillion (10^{51}), septendecillion (10^{54}), octodecillion (10^{57}), novemdecillion (10^{60}), vigintillion (10^{63}), centillion (10^{303}), etc.

Learning more about larger numbers, John Horton Conway and Richard K. Guy have suggested that N-*plex* can be used as a name for 10^N. Thus, millionplex is a number which starts with a digit 1 followed by a million 0s.

Hieu is fascinated by large numbers and researching about them. His work involves understanding positive integers up to a millionplex. Today, Hieu is calculating a function $f(n)$ which equals to the sum of squares of all its "subnumbers". A "subnumber" of a positive integer n is a number formed by a *contiguous* sequence of digits of n. In this problem, we only consider decimal representation of numbers.

For example: $f(2207) = 2207^2 + 220^2 + 207^2 + 22^2 + 20^2 + 07^2 + 2^2 + 2^2 + 0^2 + 7^2 = 4963088$.

Given a positive integer up to a millionplex, your task is to calculate $f(n)$. Since this number could be rather large, you should calculate it modulo $10^9 + 7$.

Input

The input contains a single integer n ($1 \le n \le 10^{10^6}$).

Output

Print a single integer — the value $f(n)$ modulo $10^9 + 7$.

Sample Input 1	Sample Output 1
2207	4963088