

# Sam and substrings

Samantha and Sam are playing a numbers game. Given a number as a string, no leading zeros, determine the sum of all integer values of substrings of the string.

Given an integer as a string, sum all of its substrings cast as integers. As the number may become large, return the value modulo  $10^9 + 7$ .

**Example**  
 $n = '42'$

Here  $n$  is a string that has 3 integer substrings: 4, 2, and 42. Their sum is 48, and 48 modulo  $(10^9 + 7) = 48$ .

## Function Description

Complete the *substrings* function in the editor below.

substrings has the following parameter(s):

- *string n*: the string representation of an integer

## Returns

- *int*: the sum of the integer values of all substrings in  $n$ , modulo  $10^9 + 7$

## Input Format

A single line containing an integer as a string, without leading zeros.

## Constraints

- $1 \leq n_{cast\ as\ an\ integer} \leq 2 \times 10^5$

## Sample Input 0

16

## Sample Output 0

23

## Explanation 0

The substrings of 16 are 16, 1 and 6 which sum to 23.

## Sample Input 1

123

## Sample Output 1

164

### Explanation 1

The substrings of 123 are 1, 2, 3, 12, 23, 123 which sum to 164.