

1517. Restore The Array

Difficulty : Hard

<https://leetcode.com/problems/restore-the-array>

A program was supposed to print an array of integers. The program forgot to print whitespaces and the array is printed as a string of digits s and all we know is that all integers in the array were in the range $[1, k]$ and there are no leading zeros in the array.

Given the string s and the integer k , return *the number of the possible arrays that can be printed as s using the mentioned program*. Since the answer may be very large, return it **modulo** $10^9 + 7$.

Example 1:

Input: $s = "1000"$, $k = 10000$

Output: 1

Explanation: The only possible array is [1000]

Example 2:

Input: $s = "1000"$, $k = 10$

Output: 0

Explanation: There cannot be an array that was printed this way and has all integer ≥ 1 and ≤ 10 .

Example 3:

Input: $s = "1317"$, $k = 2000$

Output: 8

Explanation: Possible arrays are [1317], [131,7], [13,17], [1,317], [13,1,7], [1,31,7], [1,3,17], [1,3,1,7]

Constraints:

- $1 \leq s.length \leq 10^5$
- s consists of only digits and does not contain leading zeros.
- $1 \leq k \leq 10^9$