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5720. Minimum Number of Operations to Make String Sorted

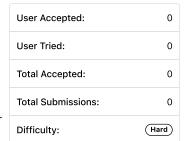
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You are given a string s (**0-indexed**). You are asked to perform the following operation on s until you get a sorted string:

- 1. Find the largest index i such that $1 \le i < s$.length and s[i] < s[i-1].
- 2. Find the largest index j such that $i \le j \le s$. length and $s[k] \le s[i-1]$ for all the possible values of k in the range [i, j] inclusive.
- 3. Swap the two characters at indices i 1 and j.
- 4. Reverse the suffix starting at index i.

Return the number of operations needed to make the string sorted. Since the answer can be too large, return it modulo 109 + 7.



Example 1:

```
Input: s = "cba"
Output: 5
Explanation: The simulation goes as follows:
Operation 1: i=2, j=2. Swap s[1] and s[2] to get s="cab", then reverse the suffix starting at 2. Now, s="cab".
Operation 2: i=1, j=2. Swap s[0] and s[2] to get s="bac", then reverse the suffix starting at 1. Now, s="bca".
Operation 3: i=2, j=2. Swap s[1] and s[2] to get s="bac", then reverse the suffix starting at 2. Now, s="bac".
Operation 4: i=1, j=1. Swap s[0] and s[1] to get s="abc", then reverse the suffix starting at 1. Now, s="acb". Operation 5: i=2, j=2. Swap s[1] and s[2] to get s="abc", then reverse the suffix starting at 2. Now, s="abc".
```

Example 2:

```
Input: s = "aabaa"
Output: 2
Explanation: The simulation goes as follows:
Operation 1: i=3, j=4. Swap s[2] and s[4] to get s="aaaab", then reverse the substring starting at 3. Now, s="aaaba".
Operation 2: i=4, j=4. Swap s[3] and s[4] to get s="aaaab", then reverse the substring starting at 4. Now, s="aaaab".
```

Example 3:

```
Input: s = "cdbea"
Output: 63
```

Example 4:

```
Input: s = "leetcodeleetcode"
Output: 982157772
```

Constraints:

- 1 <= s.length <= 3000
- · s consists only of lowercase English letters.

```
Java
1 v class Solution {
        public int makeStringSorted(String s) {
2 ▼
3
4
        }
5
    }
```