

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 <= i < s.length` and `s[i] < s[i - 1]`.
- 2. Find the **largest index** `j` such that `i <= j < s.length` and `s[k] < 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**  $10^9 + 7$ .

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Hard

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 = "leetcodeleetcodeleetcode"`  
**Output:** 982157772

Constraints:

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

Java

db

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