

Problem 940: Distinct Subsequences II

Problem Information

Difficulty: Hard

Acceptance Rate: 43.87%

Paid Only: No

Tags: String, Dynamic Programming

Problem Description

Given a string s , return the number of distinct non-empty subsequences of s . Since the answer may be very large, return it modulo $10^9 + 7$.

A subsequence of a string is a new string that is formed from the original string by deleting some (can be none) of the characters without disturbing the relative positions of the remaining characters. (i.e., "ace" is a subsequence of "abcde" while "aec" is not).

Example 1:

Input: $s = "abc"$ **Output:** 7 **Explanation:** The 7 distinct subsequences are "a", "b", "c", "ab", "ac", "bc", and "abc".

Example 2:

Input: $s = "aba"$ **Output:** 6 **Explanation:** The 6 distinct subsequences are "a", "b", "ab", "aa", "ba", and "aba".

Example 3:

Input: $s = "aaa"$ **Output:** 3 **Explanation:** The 3 distinct subsequences are "a", "aa" and "aaa".

Constraints:

$1 \leq s.length \leq 2000$ s consists of lowercase English letters.

Code Snippets

C++:

```
class Solution {  
public:  
    int distinctSubseqII(string s) {  
  
    }  
};
```

Java:

```
class Solution {  
    public int distinctSubseqII(String s) {  
  
    }  
}
```

Python3:

```
class Solution:  
    def distinctSubseqII(self, s: str) -> int:
```