

Problem 2207: Maximize Number of Subsequences in a String

Problem Information

Difficulty: Medium

Acceptance Rate: 35.61%

Paid Only: No

Tags: String, Greedy, Prefix Sum

Problem Description

You are given a **0-indexed** string `text` and another **0-indexed** string `pattern` of length `2`, both of which consist of only lowercase English letters.

You can add **either** `pattern[0]` **or** `pattern[1]` anywhere in `text` **exactly once**. Note that the character can be added even at the beginning or at the end of `text` .

Return **the maximum number of times** `pattern` **can occur as a subsequence** of the modified `text` .

A **subsequence** is a string that can be derived from another string by deleting some or no characters without changing the order of the remaining characters.

Example 1:

Input: text = "abdcdbc", pattern = "ac" **Output:** 4 **Explanation:** If we add pattern[0] = 'a' in between text[1] and text[2], we get "ab **a** dcdbc". Now, the number of times "ac" occurs as a subsequence is 4. Some other strings which have 4 subsequences "ac" after adding a character to text are "**a** abdcdbc" and "abd **a** cdbc". However, strings such as "abdc **a** dbc", "abd **c** cdbc", and "abdcdbc **c**", although obtainable, have only 3 subsequences "ac" and are thus suboptimal. It can be shown that it is not possible to get more than 4 subsequences "ac" by adding only one character.

Example 2:

Input: text = "aabb", pattern = "ab" **Output:** 6 **Explanation:** Some of the strings which can be obtained from text and have 6 subsequences "ab" are "_**a**_ aabb", "aa_**a**_ bb", and "aab _**b**_ b".

Constraints:

* `1 <= text.length <= 105` * `pattern.length == 2` * `text` and `pattern` consist only of lowercase English letters.

Code Snippets

C++:

```
class Solution {  
public:  
    long long maximumSubsequenceCount(string text, string pattern) {  
  
    }  
};
```

Java:

```
class Solution {  
public long maximumSubsequenceCount(String text, String pattern) {  
  
}  
}
```

Python3:

```
class Solution:  
    def maximumSubsequenceCount(self, text: str, pattern: str) -> int:
```