Problem 2743: Count Substrings Without Repeating Character

Problem Information

Difficulty: Medium
Acceptance Rate: 76.05%
Paid Only: Yes
Tags: Hash Table, String, Sliding Window

Problem Description

You are given a string `s` consisting only of lowercase English letters. We call a substring **special** if it contains no character which has occurred at least twice (in other words, it does not contain a repeating character). Your task is to count the number of **special** substrings. For example, in the string `"pop"`, the substring `"po"` is a **special** substring, however, `"pop"` is not **special** (since `'p'` has occurred twice).

Return _the number of **special** substrings._

A **substring** is a contiguous sequence of characters within a string. For example, `"abc"` is a substring of `"abcd"`, but `"acd"` is not.

Example 1:

Input: s = "abcd" **Output:** 10 **Explanation:** Since each character occurs once, every substring is a special substring. We have 4 substrings of length one, 3 of length two, 2 of length three, and 1 substring of length four. So overall there are 4 + 3 + 2 + 1 = 10 special substrings.

Example 2:

Input: s = "ooo" **Output:** 3 **Explanation:** Any substring with a length of at least two contains a repeating character. So we have to count the number of substrings of length one, which is 3.

Example 3:

Input: s = "abab" **Output:** 7 **Explanation:** Special substrings are as follows (sorted by their start positions): Special substrings of length 1: "a", "b", "a", "b" Special substrings of length 2: "ab", "ba", "ab" And it can be shown that there are no special substrings with a length of at least three. So the answer would be 4 + 3 = 7.

Constraints:

* `1 <= s.length <= 105` * `s` consists of lowercase English letters

Code Snippets

C++:

```
class Solution {
public:
int numberOfSpecialSubstrings(string s) {


}
};
```

Java:

```
class Solution {
public int numberOfSpecialSubstrings(String s) {


}
}
```

Python3:

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