855. Count Unique Characters of All Substrings of a Given String

Difficulty : Hard

https://leetcode.com/problems/count-unique-characters-of-all-substrings-of-a-given-string

Let's define a function `countUniqueChars(s)` that returns the number of unique characters in `s`.

- For example, calling `countUniqueChars(s)` if `s = "LEETCODE"` then `"L"`, `"T"`, `"C"`, `"O"`, `"D"` are the unique characters since they appear only once in `s`, therefore `countUniqueChars(s) = 5`.

Given a string `s`, return the sum of `countUniqueChars(t)` where `t` is a substring of `s`. The test cases are generated such that the answer fits in a 32-bit integer.

Notice that some substrings can be repeated so in this case you have to count the repeated ones too.

Example 1:

```
Input: s = "ABC"
Output: 10
Explanation: All possible substrings are: "A","B","C","AB","BC" and "ABC".
Every substring is composed with only unique letters.
Sum of lengths of all substring is 1 + 1 + 1 + 2 + 2 + 3 = 10
```

Example 2:

```
Input: s = "ABA"
Output: 8
Explanation: The same as example 1, except countUniqueChars("ABA") = 1.
```

Example 3:

```
Input: s = "LEETCODE"
Output: 92
```

Constraints:

- `1 <= s.length <= 10^5`
- `s` consists of uppercase English letters only.