2955. Number of Same-End Substrings Premium

Solved ●

Medium Topics Companies Hint

You are given a **0-indexed** string `s`, and a 2D array of integers `queries`, where `queries[i] = [$l_i$, $r_i$]` indicates a substring of `s` starting from the index l_i and ending at the index r_i (both **inclusive**), i.e. `s[$l_i$..$r_i$]`.

Return *an array* `ans` *where* `ans[i]` *is the number of* ***same-end*** *substrings of* `queries[i]`.

A **0-indexed** string `t` of length `n` is called **same-end** if it has the same character at both of its ends, i.e., `t[0] == t[n - 1]`.

A **substring** is a contiguous non-empty sequence of characters within a string.

Example 1:

> **Input:** s = "abcaab", queries = [[0,0],[1,4],[2,5],[0,5]]
> **Output:** [1,5,5,10]
> **Explanation:** Here is the same-end substrings of each query:
> 1st query: s[0..0] is "a" which has 1 same-end substring: "**a**".
> 2nd query: s[1..4] is "bcaa" which has 5 same-end substrings: "**b**caa", "b**c**aa", "bc**a**a", "bca**a**", "bc**aa**".
> 3rd query: s[2..5] is "caab" which has 5 same-end substrings: "**c**aab", "c**a**ab", "ca**a**b", "caa**b**", "c**aa**b".
> 4th query: s[0..5] is "abcaab" which has 10 same-end substrings: "**a**bcaab", "a**b**caab", "ab**c**aab", "abc**a**ab", "abca**a**b", "abcaa**b**", "abc**aa**b", "**abca**ab", "**abcaa**b", "a**bcaab**".

Example 2:

> **Input:** s = "abcd", queries = [[0,3]]
> **Output:** [4]
> **Explanation:** The only query is s[0..3] which is "abcd". It has 4 same-end substrings: "**a**bcd", "a**b**cd", "ab**c**d", "abc**d**".

Constraints:

- `2 <= s.length <= 3 * 10^4`
- `s` consists only of lowercase English letters.
- `1 <= queries.length <= 3 * 10^4`
- `queries[i] = [$l_i$, $r_i$]`
- `0 <= $l_i$ <= $r_i$ < s.length`

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

Hint 2

Discussion (1)