

# 1698. Number of Distinct Substrings in a String Premium

Medium Topics Companies Hint

Given a string `s`, return *the number of **distinct** substrings of `s`*.

A **substring** of a string is obtained by deleting any number of characters (possibly zero) from the front of the string and any number (possibly zero) from the back of the string.

## Example 1:

**Input:** `s = "aabbaba"`

**Output:** `21`

**Explanation:** The set of distinct strings is `["a","b","aa","bb","ab","ba","aab","abb","bab","bba","aba","aabb","abba","bbab","baba","aabba","abbab","bbaba","aabbab","abbaba","aabbaba"]`

## Example 2:

**Input:** `s = "abcdefg"`

**Output:** `28`

## Constraints:

- `1 <= s.length <= 500`
- `s` consists of lowercase English letters.

**Follow up:** Can you solve this problem in `O(n)` time complexity?

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

Yes No

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Hint 1

Calculate the prefix hashing array for `s`.

Hint 2

Use the prefix hashing array to calculate the hashing value of each substring.

Hint 3

Compare the hashing values to determine the unique substrings.

Hint 4

There could be collisions if you use hashing, what about double hashing.

Discussion (6)