

2950. Number of Divisible Substrings Premium

Medium Topics Companies Hint

Each character of the English alphabet has been mapped to a digit as shown below.

1 ab	2 cde	3 fgh
4 ijk	5 lmn	6 opq
7 rst	8 uvw	9 xyz

A string is **divisible** if the sum of the mapped values of its characters is divisible by its length.

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

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

Example 1:

Substring	Mapped	Sum	Length	Divisible?
a	1	1	1	Yes
s	7	7	1	Yes
d	2	2	1	Yes
f	3	3	1	Yes
as	1, 7	8	2	Yes
sd	7, 2	9	2	No
df	2, 3	5	2	No
asd	1, 7, 2	10	3	No
sdf	7, 2, 3	12	3	Yes
asdf	1, 7, 2, 3	13	4	No

Input: word = "asdf"
Output: 6
Explanation: The table above contains the details about every substring of word, and we can see that 6 of them are divisible.

Example 2:

Input: word = "bdh"
Output: 4
Explanation: The 4 divisible substrings are: "b", "d", "h", "bdh".
It can be shown that there are no other substrings of word that are divisible.

Example 3:

Input: word = "abcd"
Output: 6
Explanation: The 6 divisible substrings are: "a", "b", "c", "d", "ab", "cd".
It can be shown that there are no other substrings of word that are divisible.

Constraints:

- 1 <= word.length <= 2000
- word consists only of lowercase English letters.

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

Yes No

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Topics

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Hint 1

Iterate over all substrings in $O(n * n)$.

Hint 2

For each substring, try to calculate the sum of the mapped values in $O(1)$.

Hint 3

To do the above, use a partial sum array.

Discussion (1)