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Description

Solution

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2222. Number of Ways to Select Buildings

Medium

275

9

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You are given a **0-indexed** binary string `s` which represents the types of buildings along a street where:

- `s[i] = '0'` denotes that the i^{th} building is an office and
- `s[i] = '1'` denotes that the i^{th} building is a restaurant.

As a city official, you would like to **select** 3 buildings for random inspection. However, to ensure variety, **no two consecutive** buildings out of the **selected** buildings can be of the same type.

- For example, given `s = "001101"`, we cannot select the 1st, 3rd, and 5th buildings as that would form `"011"` which is **not** allowed due to having two consecutive buildings of the same type.

Return the ***number of valid ways*** to select 3 buildings.

Example 1:

Input: s = "001101"

Output: 6

Explanation:

The following sets of indices selected are valid:

- [0,2,4] from "001101" forms "010"

- [0,3,4] from "001101" forms "010"

- [1,2,4] from "001101" forms "010"

- [1,3,4] from "001101" forms "010"

- [2,4,5] from "001101" forms "101"

- [3,4,5] from "001101" forms "101"

No other selection is valid. Thus, there are 6 total ways.

Example 2:

Input: s = "11100"

Output: 0

Explanation: It can be shown that there are no valid selections.

Constraints:

- 3 <= s.length <= 10⁵
- s[i] is either '0' or '1'.

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Submissions 19,634

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