Problem 2707: Extra Characters in a String

Problem Information

Difficulty: Medium
Acceptance Rate: 57.17%
Paid Only: No
Tags: Array, Hash Table, String, Dynamic Programming, Trie

Problem Description

You are given a **0-indexed** string `s` and a dictionary of words `dictionary`. You have to break `s` into one or more **non-overlapping** substrings such that each substring is present in `dictionary`. There may be some **extra characters** in `s` which are not present in any of the substrings.

Return _the**minimum** number of extra characters left over if you break up _`s` _optimally._

Example 1:

Input: s = "leetscode", dictionary = ["leet","code","leetcode"] **Output:** 1 **Explanation:** We can break s in two substrings: "leet" from index 0 to 3 and "code" from index 5 to 8. There is only 1 unused character (at index 4), so we return 1.

Example 2:

Input: s = "sayhelloworld", dictionary = ["hello","world"] **Output:** 3 **Explanation:** We can break s in two substrings: "hello" from index 3 to 7 and "world" from index 8 to 12. The characters at indices 0, 1, 2 are not used in any substring and thus are considered as extra characters. Hence, we return 3.

Constraints:

* `1 <= s.length <= 50` * `1 <= dictionary.length <= 50` * `1 <= dictionary[i].length <= 50` * `dictionary[i]` and `s` consists of only lowercase English letters * `dictionary` contains distinct words

Code Snippets

C++:

```
class Solution {
public:
int minExtraChar(string s, vector<string>& dictionary) {

}
};
```

Java:

```
class Solution {
public int minExtraChar(String s, String[] dictionary) {

}
}
```

Python3:

```
class Solution:
def minExtraChar(self, s: str, dictionary: List[str]) -> int:
```