Problem 1397: Find All Good Strings

Problem Information

Difficulty: Hard
Acceptance Rate: 44.63%
Paid Only: No
Tags: String, Dynamic Programming, String Matching

Problem Description

Given the strings `s1` and `s2` of size `n` and the string `evil`, return _the number of**good** strings_.

A **good** string has size `n`, it is alphabetically greater than or equal to `s1`, it is alphabetically smaller than or equal to `s2`, and it does not contain the string `evil` as a substring. Since the answer can be a huge number, return this **modulo** `109 + 7`.

Example 1:

Input: n = 2, s1 = "aa", s2 = "da", evil = "b" **Output:** 51 **Explanation:** There are 25 good strings starting with 'a': "aa","ac","ad",...,"az". Then there are 25 good strings starting with 'c': "ca","cc","cd",...,"cz" and finally there is one good string starting with 'd': "da".

Example 2:

Input: n = 8, s1 = "leetcode", s2 = "leetgoes", evil = "leet" **Output:** 0 **Explanation:** All strings greater than or equal to s1 and smaller than or equal to s2 start with the prefix "leet", therefore, there is not any good string.

Example 3:

Input: n = 2, s1 = "gx", s2 = "gz", evil = "x" **Output:** 2

Constraints:

* `s1.length == n` * `s2.length == n` * `s1 <= s2` * `1 <= n <= 500` * `1 <= evil.length <= 50` * All strings consist of lowercase English letters.

Code Snippets

C++:

```
class Solution {
public:
int findGoodStrings(int n, string s1, string s2, string evil) {

}
};
```

Java:

```
class Solution {
public int findGoodStrings(int n, String s1, String s2, String evil) {

}
}
```

Python3:

```
class Solution:
def findGoodStrings(self, n: int, s1: str, s2: str, evil: str) -> int:
```