Problem 955: Delete Columns to Make Sorted II

Problem Information

Difficulty: Medium
Acceptance Rate: 36.08%
Paid Only: No
Tags: Array, String, Greedy

Problem Description

You are given an array of `n` strings `strs`, all of the same length.

We may choose any deletion indices, and we delete all the characters in those indices for each string.

For example, if we have `strs = ["abcdef","uvwxyz"]` and deletion indices `{0, 2, 3}`, then the final array after deletions is `["bef", "vyz"]`.

Suppose we chose a set of deletion indices `answer` such that after deletions, the final array has its elements in **lexicographic** order (i.e., `strs[0] <= strs[1] <= strs[2] <= ... <= strs[n - 1]`). Return _the minimum possible value of_ `answer.length`.

Example 1:

Input: strs = ["ca","bb","ac"] **Output:** 1 **Explanation:** After deleting the first column, strs = ["a", "b", "c"]. Now strs is in lexicographic order (ie. strs[0] <= strs[1] <= strs[2]). We require at least 1 deletion since initially strs was not in lexicographic order, so the answer is 1.

Example 2:

Input: strs = ["xc","yb","za"] **Output:** 0 **Explanation:** strs is already in lexicographic order, so we do not need to delete anything. Note that the rows of strs are not necessarily in lexicographic order: i.e., it is NOT necessarily true that (strs[0][0] <= strs[0][1] <= ...)

Example 3:

Input: strs = ["zyx","wvu","tsr"] **Output:** 3 **Explanation:** We have to delete every column.

Constraints:

* `n == strs.length` * `1 <= n <= 100` * `1 <= strs[i].length <= 100` * `strs[i]` consists of lowercase English letters.

Code Snippets

C++:

```
class Solution {
public:
int minDeletionSize(vector<string>& strs) {

}
};
```

Java:

```
class Solution {
public int minDeletionSize(String[] strs) {

}
}
```

Python3:

```
class Solution:
def minDeletionSize(self, strs: List[str]) -> int:
```