Problem 955: Delete Columns to Make Sorted II

Problem Information

Difficulty: Medium
Acceptance Rate: 0.00%
Paid Only: No

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:
```

Python:

```
class Solution(object):
def minDeletionSize(self, strs):
"""
:type strs: List[str]
:rtype: int
"""
```

JavaScript:

```
/**
* @param {string[]} strs
* @return {number}
*/
var minDeletionSize = function(strs) {

};
```

TypeScript:

```
function minDeletionSize(strs: string[]): number {

};
```

C#:

```
public class Solution {
public int MinDeletionSize(string[] strs) {

}
}
```

C:

```
int minDeletionSize(char** strs, int strsSize) {

}
```

Go:

```
func minDeletionSize(strs []string) int {

}
```

Kotlin:

```
class Solution {
fun minDeletionSize(strs: Array<String>): Int {

}
}
```

Swift:

```
class Solution {
func minDeletionSize(_ strs: [String]) -> Int {

}
}
```

Rust:

```
impl Solution {
pub fn min_deletion_size(strs: Vec<String>) -> i32 {

}
}
```

Ruby:

```
# @param {String[]} strs
# @return {Integer}
def min_deletion_size(strs)

end
```

PHP:

```
class Solution {

/**
* @param String[] $strs
* @return Integer
*/
function minDeletionSize($strs) {

}
}
```

Dart:

```
class Solution {
int minDeletionSize(List<String> strs) {

}
}
```

Scala:

```
object Solution {
def minDeletionSize(strs: Array[String]): Int = {

}
}
```

Elixir:

```
defmodule Solution do
@spec min_deletion_size(strs :: [String.t]) :: integer
def min_deletion_size(strs) do

end
end
```

Erlang:

```
-spec min_deletion_size(Strs :: [unicode:unicode_binary()]) -> integer().
min_deletion_size(Strs) ->
.
```

Racket:

```
(define/contract (min-deletion-size strs)
(-> (listof string?) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Delete Columns to Make Sorted II
* Difficulty: Medium
* Tags: array, string, graph, greedy
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(1) to O(n) depending on approach
*/

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

}
};
```

Java Solution:

```
/**
* Problem: Delete Columns to Make Sorted II
* Difficulty: Medium
* Tags: array, string, graph, greedy
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
* Space Complexity: O(1) to O(n) depending on approach
*/

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

}
}
```

Python3 Solution:

```
"""
Problem: Delete Columns to Make Sorted II
Difficulty: Medium
Tags: array, string, graph, greedy

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
Space Complexity: O(1) to O(n) depending on approach
"""

class Solution:
def minDeletionSize(self, strs: List[str]) -> int:
# TODO: Implement optimized solution
pass
```

Python Solution:

```
class Solution(object):
def minDeletionSize(self, strs):
"""
:type strs: List[str]
:rtype: int
```

```
"""
```

JavaScript Solution:

```
/**
* Problem: Delete Columns to Make Sorted II
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/**
* @param {string[]} strs
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var minDeletionSize = function(strs) {

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TypeScript Solution:

```
/**
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* Difficulty: Medium
* Tags: array, string, graph, greedy
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* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

function minDeletionSize(strs: string[]): number {

};
```

C# Solution:

```
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* Problem: Delete Columns to Make Sorted II
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* Time Complexity: O(n) or O(n log n)
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*/

public class Solution {
public int MinDeletionSize(string[] strs) {

}
}
```

C Solution:

```
/*
* Problem: Delete Columns to Make Sorted II
* Difficulty: Medium
* Tags: array, string, graph, greedy
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

int minDeletionSize(char** strs, int strsSize) {

}
```

Go Solution:

```
// Problem: Delete Columns to Make Sorted II
// Difficulty: Medium
// Tags: array, string, graph, greedy
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
// Space Complexity: O(1) to O(n) depending on approach
```

```
func minDeletionSize(strs []string) int {

}
```

Kotlin Solution:

```
class Solution {
fun minDeletionSize(strs: Array<String>): Int {

}
}
```

Swift Solution:

```
class Solution {
func minDeletionSize(_ strs: [String]) -> Int {

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Rust Solution:

```
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impl Solution {
pub fn min_deletion_size(strs: Vec<String>) -> i32 {

}
}
```

Ruby Solution:

```
# @param {String[]} strs
# @return {Integer}
def min_deletion_size(strs)
```

```
end
```

PHP Solution:

```
class Solution {

/**
* @param String[] $strs
* @return Integer
*/
function minDeletionSize($strs) {

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Dart Solution:

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class Solution {
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