Problem 3231: Minimum Number of Increasing Subsequence to Be Removed

Problem Information

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

Problem Description

Given an array of integers

nums

, you are allowed to perform the following operation any number of times:

Remove a

strictly increasing

subsequence

from the array.

Your task is to find the

minimum

number of operations required to make the array

empty

.

Example 1:

Input:

nums = [5,3,1,4,2]

Output:

3

Explanation:

We remove subsequences

[1, 2]

,

[3, 4]

,

[5]

.

Example 2:

Input:

nums = [1,2,3,4,5]

Output:

1

Example 3:

Input:

nums = [5,4,3,2,1]

Output:

5

Constraints:

1 <= nums.length <= 10

5

1 <= nums[i] <= 10

5

Code Snippets

C++:

```
class Solution {
public:
int minOperations(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int minOperations(int[] nums) {

}
}
```

Python3:

```
class Solution:
def minOperations(self, nums: List[int]) -> int:
```

Python:

```
class Solution(object):
def minOperations(self, nums):
"""
:type nums: List[int]
:rtype: int
"""
```

JavaScript:

```
/**
* @param {number[]} nums
* @return {number}
*/
var minOperations = function(nums) {

};
```

TypeScript:

```
function minOperations(nums: number[]): number {

};
```

C#:

```
public class Solution {
public int MinOperations(int[] nums) {

}
}
```

C:

```
int minOperations(int* nums, int numsSize) {

}
```

Go:

```
func minOperations(nums []int) int {
```

```
}
```

Kotlin:

```
class Solution {
fun minOperations(nums: IntArray): Int {

}
}
```

Swift:

```
class Solution {
func minOperations(_ nums: [Int]) -> Int {

}
}
```

Rust:

```
impl Solution {
pub fn min_operations(nums: Vec<i32>) -> i32 {

}
}
```

Ruby:

```
# @param {Integer[]} nums
# @return {Integer}
def min_operations(nums)

end
```

PHP:

```
class Solution {

/**
* @param Integer[] $nums
* @return Integer
*/
```

```
function minOperations($nums) {

}
}
```

Dart:

```
class Solution {
int minOperations(List<int> nums) {

}
}
```

Scala:

```
object Solution {
def minOperations(nums: Array[Int]): Int = {

}
}
```

Elixir:

```
defmodule Solution do
@spec min_operations(nums :: [integer]) :: integer
def min_operations(nums) do

end
end
```

Erlang:

```
-spec min_operations(Nums :: [integer()]) -> integer().
min_operations(Nums) ->
.
```

Racket:

```
(define/contract (min-operations nums)
(-> (listof exact-integer?) exact-integer?)
)
```

Solutions

C++ Solution:

```
/*
* Problem: Minimum Number of Increasing Subsequence to Be Removed
* Difficulty: Hard
* Tags: array, search
*
* 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 minOperations(vector<int>& nums) {

}
};
```

Java Solution:

```
/**
* Problem: Minimum Number of Increasing Subsequence to Be Removed
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*/

class Solution {
public int minOperations(int[] nums) {

}
}
```

Python3 Solution:

```
"""
Problem: Minimum Number of Increasing Subsequence to Be Removed
Difficulty: Hard
Tags: array, search

Approach: Use two pointers or sliding window technique
Time Complexity: O(n) or O(n log n)
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"""

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

Python Solution:

```
class Solution(object):
def minOperations(self, nums):
"""
:type nums: List[int]
:rtype: int
"""
```

JavaScript Solution:

```
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```

```
};
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TypeScript Solution:

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C# Solution:

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public class Solution {
public int MinOperations(int[] nums) {

}
}
```

C Solution:

```
/*
* Problem: Minimum Number of Increasing Subsequence to Be Removed
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```

```
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*/

int minOperations(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Minimum Number of Increasing Subsequence to Be Removed
// Difficulty: Hard
// Tags: array, search
//
// Approach: Use two pointers or sliding window technique
// Time Complexity: O(n) or O(n log n)
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func minOperations(nums []int) int {

}
```

Kotlin Solution:

```
class Solution {
fun minOperations(nums: IntArray): Int {

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Swift Solution:

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class Solution {
func minOperations(_ nums: [Int]) -> Int {

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impl Solution {
pub fn min_operations(nums: Vec<i32>) -> i32 {

}
}
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Ruby Solution:

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# @param {Integer[]} nums
# @return {Integer}
def min_operations(nums)

end
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PHP Solution:

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class Solution {

/**
* @param Integer[] $nums
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Dart Solution:

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