Problem 26: Remove Duplicates from Sorted Array

Problem Information

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

Problem Description

Given an integer array

nums

sorted in

non-decreasing order

, remove the duplicates

in-place

such that each unique element appears only

once

. The

relative order

of the elements should be kept the

same

.

Consider the number of

unique elements

in

nums

to be

k

.

After removing duplicates, return the number of unique elements

k

.

The first

k

elements of

nums

should contain the unique numbers in

sorted order

. The remaining elements beyond index

k - 1

can be ignored.

Custom Judge:

The judge will test your solution with the following code:

int[] nums = [...]; // Input array int[] expectedNums = [...]; // The expected answer with correct length

int k = removeDuplicates(nums); // Calls your implementation

assert k == expectedNums.length; for (int i = 0; i < k; i++) { assert nums[i] == expectedNums[i]; }

If all assertions pass, then your solution will be

accepted

.

Example 1:

Input:

nums = [1,1,2]

Output:

2, nums = [1,2,_]

Explanation:

Your function should return k = 2, with the first two elements of nums being 1 and 2 respectively. It does not matter what you leave beyond the returned k (hence they are underscores).

Example 2:

Input:

nums = [0,0,1,1,1,2,2,3,3,4]

Output:

5, nums = [0,1,2,3,4,_,_,_,_,_]

Explanation:

Your function should return k = 5, with the first five elements of nums being 0, 1, 2, 3, and 4 respectively. It does not matter what you leave beyond the returned k (hence they are underscores).

Constraints:

1 <= nums.length <= 3 * 10

4

-100 <= nums[i] <= 100

nums

is sorted in

non-decreasing

order.

Code Snippets

C++:

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

}
};
```

Java:

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

}
}
```

Python3:

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

Python:

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

JavaScript:

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

};
```

TypeScript:

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

};
```

C#:

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

}
}
```

C:

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

}
```

Go:

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

}
```

Kotlin:

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

}
}
```

Swift:

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

}
}
```

Rust:

```
impl Solution {
pub fn remove_duplicates(nums: &mut Vec<i32>) -> i32 {

}
}
```

Ruby:

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

end
```

PHP:

```
class Solution {

/**
* @param Integer[] $nums
* @return Integer
*/
function removeDuplicates(&$nums) {

}
}
```

Dart:

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

}
}
```

Scala:

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

}
}
```

Solutions

C++ Solution:

```
/*
* Problem: Remove Duplicates from Sorted Array
* Difficulty: Easy
* Tags: array, sort
*
* 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 removeDuplicates(vector<int>& nums) {

}
};
```

Java Solution:

```
/**
* Problem: Remove Duplicates from Sorted Array
* Difficulty: Easy
* Tags: array, sort
*
* 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 removeDuplicates(int[] nums) {

}
}
```

Python3 Solution:

```
"""
Problem: Remove Duplicates from Sorted Array
Difficulty: Easy
Tags: array, sort

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 removeDuplicates(self, nums: List[int]) -> int:
```

```
# TODO: Implement optimized solution
pass
```

Python Solution:

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

JavaScript Solution:

```
/**
* Problem: Remove Duplicates from Sorted Array
* Difficulty: Easy
* Tags: array, sort
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* Time Complexity: O(n) or O(n log n)
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*/

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

};
```

TypeScript Solution:

```
/**
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* Difficulty: Easy
* Tags: array, sort
*
* 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
*/

function removeDuplicates(nums: number[]): number {

};
```

C# Solution:

```
/*
* Problem: Remove Duplicates from Sorted Array
* Difficulty: Easy
* Tags: array, sort
*
* 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
*/

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

}
}
```

C Solution:

```
/*
* Problem: Remove Duplicates from Sorted Array
* Difficulty: Easy
* Tags: array, sort
*
* Approach: Use two pointers or sliding window technique
* Time Complexity: O(n) or O(n log n)
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*/

int removeDuplicates(int* nums, int numsSize) {

}
```

Go Solution:

```
// Problem: Remove Duplicates from Sorted Array
// Difficulty: Easy
// Tags: array, sort
//
// 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 removeDuplicates(nums []int) int {

}
```

Kotlin Solution:

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

}
}
```

Swift Solution:

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

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Rust Solution:

```
// Problem: Remove Duplicates from Sorted Array
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impl Solution {
pub fn remove_duplicates(nums: &mut Vec<i32>) -> i32 {
```

```
}
}
```

Ruby Solution:

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

end
```

PHP Solution:

```
class Solution {

/**
* @param Integer[] $nums
* @return Integer
*/
function removeDuplicates(&$nums) {

}
}
```

Dart Solution:

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

}
}
```

Scala Solution:

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

}
}
```