Leetcode: 26
Remove Duplicates from Sorted Array

BHONE

26. Remove Duplicates from Sorted Array

Solved

Easy | Topics | Companies | Hint

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).
```

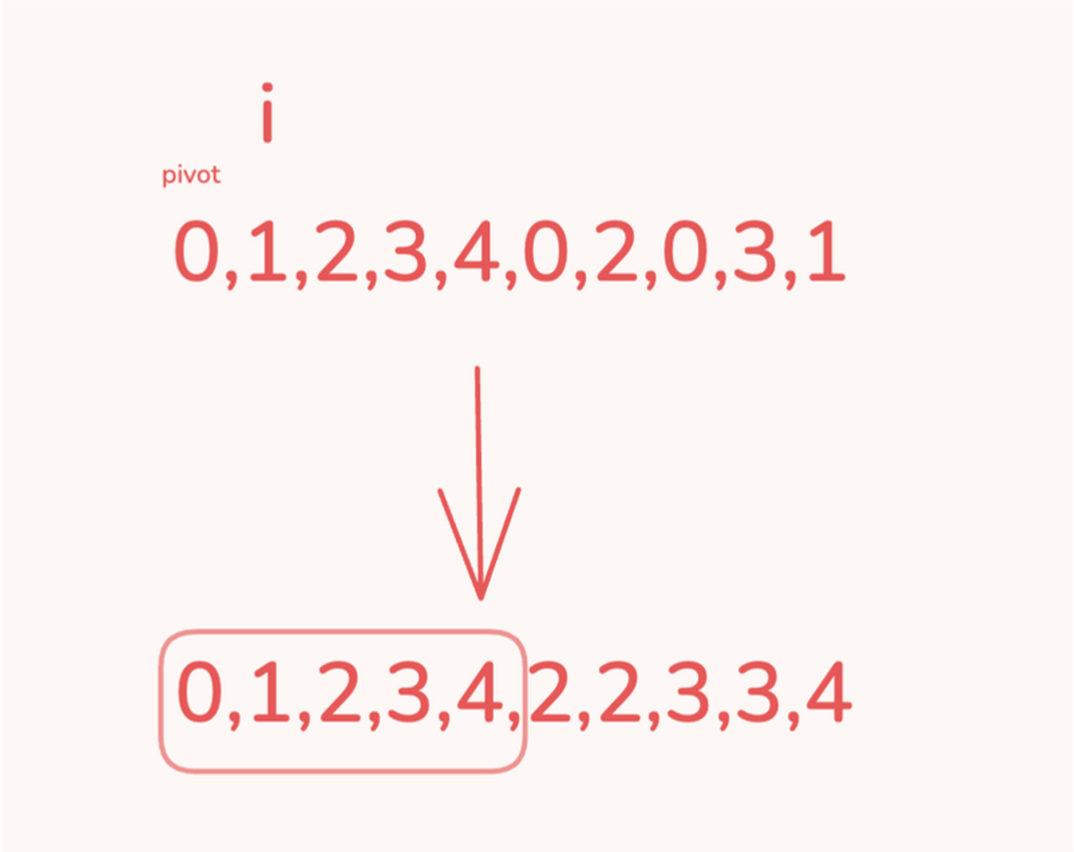
Example 2:

```
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.

Explanation


i
pivot
0,1,2,3,4,0,2,0,3,1
0,1,2,3,4,2,2,3,3,4

Code

```python
class Solution:
    def removeDuplicates(self, nums: List[int]) -> int:
        j = 0
        for i in range(1, len(nums)):
            if nums[i] == nums[j]:
                continue
            else:
                j+=1
                nums[j], nums[i] = nums[i], nums[j]
        return j+1
```

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```python
class Solution:
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        j = 0
        for i in range(1, len(nums)):
            if nums[i] == nums[j]:
                continue
            else:
                j+=1
                nums[j] = nums[i]
        return j+1
```

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VMES Grinds

Time and Space Complexity Analysis

VMES Grinds

```python
class Solution:
    def removeDuplicates(self, nums: List[int]) -> int:
        j = 0
        for i in range(1, len(nums)):
            if nums[i] == nums[j]:
                continue
            else:
                j+=1
                nums[j] = nums[i]
        return j+1
```

Space - O(1)

Time - O(n)

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