

46. Sort Colors

Given an array `nums` with `n` objects colored red, white, or blue, sort them in-place so that objects of the same color are adjacent, with the colors in the order red, white, and blue. We will use the integers 0, 1, and 2 to represent the color red, white, and blue, respectively. You must solve this problem without using the library's sort function.

Example 1: Input: `nums = [2,0,2,1,1,0]` Output: `[0,0,1,1,2,2]`

Example 2: Input: `nums = [2,0,1]` Output: `[0,1,2]`

AIM: To sort colors

PROGRAM:

```
def sortColors(nums):  
    low, mid, high = 0, 0, len(nums) - 1  
    while mid <= high:  
        if nums[mid] == 0:  
            nums[low], nums[mid] = nums[mid], nums[low]  
            low += 1  
            mid += 1  
        elif nums[mid] == 1:  
            mid += 1  
        else:  
            nums[mid], nums[high] = nums[high], nums[mid]  
            high -= 1  
    return nums  
  
nums1 = [2, 0, 2, 1, 1, 0]  
print(sortColors(nums1))
```

```
[0, 0, 1, 1, 2, 2]
```

OUTPUT:

TIME COMPLEXITY: $O(n)$