

Move Zeroes

Solution

Given an array `nums`, write a function to move all `0`'s to the end of it while maintaining the relative order of the non-zero elements.

Example:

Input: `[0,1,0,3,12]`
Output: `[1,3,12,0,0]`

Note:

1. You must do this **in-place** without making a copy of the array.
2. Minimize the total number of operations.

Hide Hint #1

In-place means we should not be allocating any space for extra array. But we are allowed to modify the existing array. However, as a first step, try coming up with a solution that makes use of additional space. For this problem as well, first apply the idea discussed using an additional array and the in-place solution will pop up eventually.

Hide Hint #2

A **two-pointer** approach could be helpful here. The idea would be to have one pointer for iterating the array and another pointer that just works on the non-zero elements of the array.

Java



```
1 class Solution {
2     public void moveZeroes(int[] nums) {
3
4         int i = 0;
5
6         for(int j = 0; j < nums.length; j++) {
7             if(nums[j] != 0) {
8                 nums[i] = nums[j];
9                 i++;
10            }
11        }
12        while(i < nums.length) {
13            nums[i] = 0;
14            i++;
15        }
16    }
17 }
```

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