Sort colors

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

l

zeros - 3

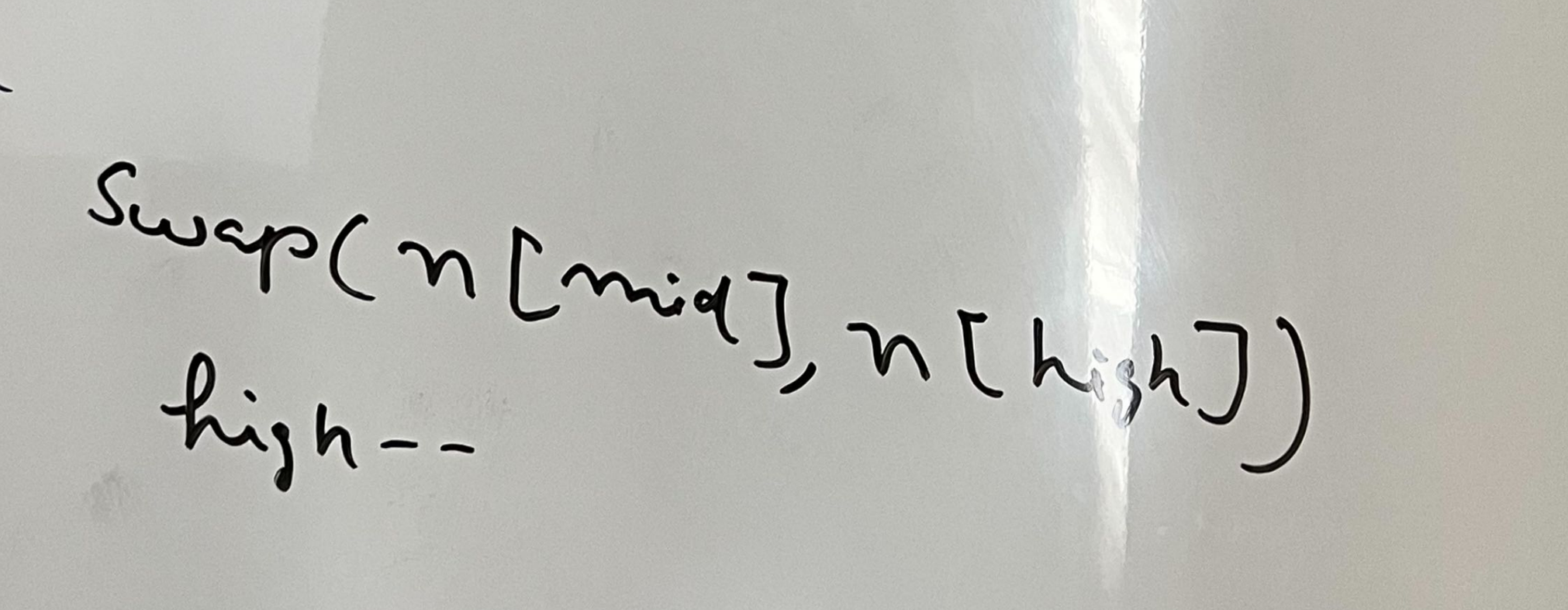
ones - 5

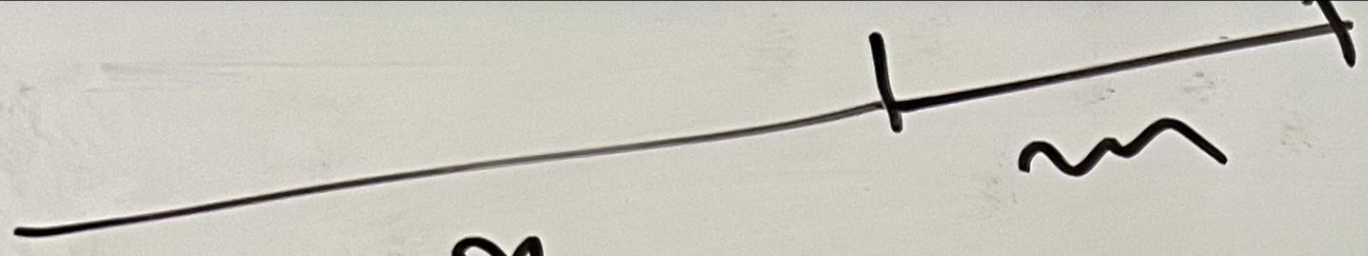
two - 3

Brute force - nlogn-sort, O(1)

Robit - O(n)

```
while(mid<=high):
    if n[mid]==1:
        mid++;
    elif n[mid]==0
        swap(n[mid], n[low])
        low++, mid++
    else
        swap(n[mid], n[high])
        high--
```





$n \log n$

$(n+m)\log(n+m)$

$n_1[0 : p_2+1] = n_2[0 : p_2+1]$

$p_1[4, 5, 6, 7, 8, 9, 10, 11]$

$[1, 2, 3]$

p_2

Merge Sorted Array

P1

nums1 = [1, 2, 4, 4, 7, 8, 9]

nums2 = [4, 8, 9]

P2

[1, 2, 3, 4, 4, 5, 7, 8, 9]

[1, 4, 8]

- Thaalaari -

- O(m+n)

O(m+n log(m+n))