

## LEETCODE 169 | ARRAYS

## Majority Element

Input: `nums = [2, 2, 1, 1, 1, 2, 2]`; Output: 2majority  $\rightarrow$  occurrence  $\geq$  `nums.length/2`Approach 1:- 1) Create a HashMap of  $\langle \text{Integer}, \text{Integer} \rangle$   

$\uparrow$   
nums[i]

$\uparrow$   
count

by iterating nums

2) Loop HashMap & check which no's count  
 $\geq$  `nums.length/2`TC  $\rightarrow O(N+N) = O(2N)$ SC  $\rightarrow O(N)$ 

Approach 2:- Moore's Voting Algorithm

- 1) Loop nums & maintain count
- 2) Let `nums[0]` be majority element (major)  $m = 2$
- 3) When `major == nums[i]`  $\rightarrow$  count++  
else count--;
- 4) If count == 0;  $m = \text{nums}[i]$
- 5) Return m which could be answer

TC -  $O(N)$ SC -  $O(1)$