Day 3

Code 1: Majority Element

Company: Flipkart, Accolite, Amazon, Microsoft, D-E-Shaw, Google, Nagarro, Atlassian
Platform : Leetcode - 169, GFG

Fraz's & striver's SDE sheet.

Description

Given an array nums of size n, return the majority element.

The majority element is the element that appears more than ⌊n / 2⌋ times. You may assume that the majority element always exists in the array.

Example 1:

Input: nums = [3,2,3]
Output: 3

Example 2:

Input: nums = [2,2,1,1,1,2,2]
Output: 2

Constraints:

n == nums.length
1 <= n <= 5 * 104
-109 <= nums[i] <= 109

Code2: Leaders in an Array

Company : PayU, Adobe, Microsoft, Synopsys, Coditas, HashedIn, Betsol

Platform : GFG

Description:

Given an array A of positive integers. Your task is to find the leaders in the array. An element of an array is a leader if it is greater than or equal to all the elements to its right side. The rightmost element is always a leader.

Example 1:

Input:

n = 6

A[] = {16,17,4,3,5,2}

Output: 17 5 2

Explanation: The first leader is 17 as it is greater than all the elements to its right.

Similarly, the next leader is 5. The right most element is always a leader so it is also included.

Example 2:

Input:

n = 5

A[] = {1,2,3,4,0}

Output: 4 0

Explanation: 0 is the rightmost element and 4 is the only element which is greater

than all the elements to its right.

Expected Time Complexity: O(n)
Expected Auxiliary Space: O(n)

Constraints:

1 <= n <= 107

0 <= Ai <= 107

Code3 : **Count pairs with given sum**

Company: Amazon, MakeMyTri, Facebook, UnitedHealth Group

Platform: GFG
Love Babbar's SDE Sheet

Description:

Given an array of N integers, and an integer K, find the number of pairs of elements in the array whose sum is equal to K.

Example 1:

Input:
N = 4, K = 6
arr[] = {1, 5, 7, 1}
Output: 2
Explanation:
arr[0] + arr[1] = 1 + 5 = 6 and arr[1] + arr[3] = 5 + 1 = 6.

Example 2:

Input:
N = 4, K = 2
arr[] = {1, 1, 1, 1}
Output: 6
Explanation:
Each 1 will produce sum 2 with any 1.

Expected Time Complexity: O(N)
Expected Auxiliary Space: O(N)

Constraints:
1 <= N <= 105
1 <= K <= 108
1 <= Arr[i] <= 106

Solutions Will Be Provided Within 24 Hrs