Day-5

Missing Number (LeetCode- 268)

Given an array nums containing n distinct numbers in the range [0, n], return the only number in the range that is missing from the array.

Example 1:
Input: nums = [3,0,1]
Output: 2
Explanation: n = 3 since there are 3 numbers, so all numbers are in the range [0,3]. 2 is the missing number in the range since it does not appear in nums.

Example 2:
Input: nums = [0,1]
Output: 2
Explanation: n = 2 since there are 2 numbers, so all numbers are in the range [0,2]. 2 is the missing number in the range since it does not appear in nums.

Example 3:
Input: nums = [9,6,4,2,3,5,7,0,1]
Output: 8
Explanation: n = 9 since there are 9 numbers, so all numbers are in the range [0,9]. 8 is the missing number in the range since it does not appear in nums.

Constraints:
n == nums.length
1 <= n <= 104
0 <= nums[i] <= n
All the numbers of nums are unique.

Single Number (LeetCode-136)

Given a non-empty array of integers nums, every element appears twice except for one. Find that single one.

You must implement a solution with a linear runtime complexity and use only constant extra space.

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

Example 2:
Input: nums = [4,1,2,1,2]
Output: 4

Example 3:
Input: nums = [1]
Output: 1

Constraints:
1 <= nums.length <= 3 * 104
-3 * 104 <= nums[i] <= 3 * 104
Each element in the array appears twice except for one element which appears only once.