

Arrays

(Assignment Questions)

(EASY)

Question 1 : Given an integer array nums, return true if any value appears at least twice in the array, and return false if every element is distinct. [[link](#)]

Examples :

Input: nums = [1,2,3,4]

Output: false

Input: nums = [1,1,1,3,3,4,3,2,4,2]

Output: true



(MEDIUM)

Question 2 : There is an integer array nums sorted in ascending order (with distinct values).

Prior to being passed to your function, nums is possibly rotated at an unknown pivot index k ($1 \leq k < \text{nums.length}$) such that the resulting array is $[\text{nums}[k], \text{nums}[k+1], \dots, \text{nums}[\text{n}-1], \text{nums}[0], \text{nums}[1], \dots, \text{nums}[\text{k}-1]]$ (0-indexed). For example, $[0,1,2,4,5,6,7]$ might be rotated at pivot index 3 and become $[4,5,6,7,0,1,2]$.

Given the array nums after the possible rotation and an integer target, return the index of target if it is in nums, or -1 if it is not in nums.

You must write an algorithm with $O(\log n)$ runtime complexity. [[link](#)]

Examples :

Input: nums = [4,5,6,7,0,1,2], target = 0

Output: 4

Input: nums = [4,5,6,7,0,1,2], target = 3

Output: -1

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(MEDIUM)

Question 3 : Given an integer array nums, find a subarray that has the largest product, and return the product. The test cases are generated so that the answer will fit in a 32-bit integer. [\[link\]](#)

Note - This Qs might feel difficult as a beginner because it uses DP approach.

Examples :

Input: nums = [2,3,-2,4]

Output: 6

Explanation: [2,3] has the largest product 6.

Input: intervals =nums = [-2,0,-1]

Output: 0

Explanation: The result cannot be 2, because [-2,-1] is not a subarray.



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