



25 commonly asked interview coding questions on 1D arrays.

1. Find the Maximum and Minimum Element in an Array

- **Problem:** Given an array of integers, find the maximum and minimum element.
- **Sample Input:** [3, 5, 1, 2, 4, 8]
- **Sample Output:** Max: 8, Min: 1

2. Reverse an Array

- **Problem:** Given an array, reverse the array.
- **Sample Input:** [1, 2, 3, 4, 5]
- **Sample Output:** [5, 4, 3, 2, 1]

3. Find the Kth Largest Element in an Array

- **Problem:** Given an array and a number K, find the Kth largest element.
- **Sample Input:** [3, 2, 1, 5, 6, 4], K = 2
- **Sample Output:** 5

4. Find the Majority Element

- **Problem:** Given an array, find the element that appears more than $n/2$ times.
- **Sample Input:** [2, 2, 1, 1, 1, 2, 2]
- **Sample Output:** 2

5. Find the Duplicate Number

- **Problem:** Given an array of $n+1$ integers where each integer is between 1 and n (inclusive), find the duplicate number.
- **Sample Input:** [1, 3, 4, 2, 2]
- **Sample Output:** 2

6. Rotate an Array

- **Problem:** Given an array, rotate the array to the right by k steps.
- **Sample Input:** [1, 2, 3, 4, 5, 6, 7], K = 3
- **Sample Output:** [5, 6, 7, 1, 2, 3, 4]

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7. Subarray with Given Sum

- **Problem:** Given an array and a sum, find if there is a subarray with the given sum.
- **Sample Input:** [1, 4, 20, 3, 10, 5], Sum = 33
- **Sample Output:** Sum found between indexes 2 and 4

8. Best Time to Buy and Sell Stock

- **Problem:** Given an array where the i th element is the price of a given stock on day i , find the maximum profit you can achieve.
- **Sample Input:** [7, 1, 5, 3, 6, 4]
- **Sample Output:** 5

9. Merge Two Sorted Arrays

- **Problem:** Given two sorted arrays, merge them into a single sorted array.
- **Sample Input:** [1, 3, 5, 7], [2, 4, 6, 8]
- **Sample Output:** [1, 2, 3, 4, 5, 6, 7, 8]

10. Find the Missing Number

- **Problem:** Given an array containing n distinct numbers taken from $0, 1, 2, \dots, n$, find the one that is missing.
- **Sample Input:** [3, 0, 1]
- **Sample Output:** 2

11. Move Zeroes

- **Problem:** Given an array, move all zeroes to the end while maintaining the order of non-zero elements.
- **Sample Input:** [0, 1, 0, 3, 12]
- **Sample Output:** [1, 3, 12, 0, 0]

12. Two Sum

- **Problem:** Given an array and a target, find two numbers such that they add up to the target.
- **Sample Input:** [2, 7, 11, 15], Target = 9
- **Sample Output:** [0, 1]

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13. Product of Array Except Self

- **Problem:** Given an array, return an array where each element is the product of all other elements.
- **Sample Input:** [1, 2, 3, 4]
- **Sample Output:** [24, 12, 8, 6]

14. Maximum Subarray

- **Problem:** Given an array, find the contiguous subarray with the maximum sum.
- **Sample Input:** [-2,1,-3,4,-1,2,1,-5,4]
- **Sample Output:** 6

15. Find the First Missing Positive

- **Problem:** Given an array, find the smallest missing positive integer.
- **Sample Input:** [1,2,0]
- **Sample Output:** 3

16. Container with Most Water

- **Problem:** Given an array where each element represents the height, find two lines that together with the x-axis forms a container that would hold the most water.
- **Sample Input:** [1,8,6,2,5,4,8,3,7]
- **Sample Output:** 49

17. Search in Rotated Sorted Array

- **Problem:** Given a rotated sorted array, find a target value.
- **Sample Input:** [4,5,6,7,0,1,2], Target = 0
- **Sample Output:** 4

18. Find Minimum in Rotated Sorted Array

- **Problem:** Given a rotated sorted array, find the minimum element.
- **Sample Input:** [3,4,5,1,2]
- **Sample Output:** 1

19. Longest Consecutive Sequence

- **Problem:** Given an array, find the length of the longest consecutive elements sequence.
- **Sample Input:** [100, 4, 200, 1, 3, 2]
- **Sample Output:** 4

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20. Remove Duplicates from Sorted Array

- **Problem:** Given a sorted array, remove the duplicates in-place.
- **Sample Input:** [1,1,2]
- **Sample Output:** [1, 2]

21. Find All Duplicates in an Array

- **Problem:** Given an array, find all elements that appear twice.
- **Sample Input:** [4,3,2,7,8,2,3,1]
- **Sample Output:** [2, 3]

22. Find All Numbers Disappeared in an Array

- **Problem:** Given an array, find all the elements that do not appear in the array.
- **Sample Input:** [4,3,2,7,8,2,3,1]
- **Sample Output:** [5, 6]

23. Next Permutation

- **Problem:** Given an array, find the next permutation of the given sequence.
- **Sample Input:** [1,2,3]
- **Sample Output:** [1,3,2]

24. Trapping Rain Water

- **Problem:** Given an array representing elevation map, compute how much water it can trap after raining.
- **Sample Input:** [0,1,0,2,1,0,1,3,2,1,2,1]
- **Sample Output:** 6

25. Find the Intersection of Two Arrays

- **Problem:** Given two arrays, find their intersection.
- **Sample Input:** [1,2,2,1], [2,2]
- **Sample Output:** [2,2]

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