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Most Asked DSA Questions

Q. Longest Palindromic Substring

Find the longest palindromic substring.

Example:
- **Input: "cbbd"**
- **Output: "bb"**

Explanation:
"bb" is the longest palindromic substring.

Q. Two Sum

Find two indices that sum to the target.

Example:
- **Input: [1, 8, 11, 15], target = 9**
- **Output: [0, 1]**

Explanation:
1 + 8 = 9

Q. Merge k Sorted Lists

Merge k sorted linked lists.

Example:
- **Input: [[1, 2, 3], [2, 4, 6], [5, 8, 9]]**
- **Output: [1, 2, 2, 3, 4, 5, 6, 8, 9]**

Explanation:
Lists merged in sorted order.

Q. Meeting Rooms

Check if all meetings can be attended without overlaps.

Example:
- **Input: [[10, 20], [5, 15], [20, 30]]**
- **Output: false**

Explanation:
Overlapping meetings [10, 20] and [5, 15].

Q. Product of Array Except Self

Return an array where each element is the product of all other elements.

Example:
- Input: [5, 6, 2, 4]
- Output: [48, 40, 120, 60]

Explanation:
- output[0] = 6 * 2 * 4 = 48
- output[1] = 5 * 2 * 4 = 40
- output[2] = 5 * 6 * 4 = 120
- output[3] = 5 * 6 * 2 = 60

Q. 3Sum

Find unique triplets that sum to zero.

Example:
- Input: [3, -1, -4, -2, 2, -5]
- Output: [[-5, 3, 2], [-4, -1, 5]]

Explanation:
Unique triplets are [-5, 3, 2] and [-4, -1, 5].

Q. Reverse Linked Lists

Reverse a singly linked list.

Example:
- **Input: 7 -> 14 -> 21 -> 28 -> NULL**
- **Output: 28 -> 21 -> 14 -> 7 -> NULL**

Explanation:
Linked list is reversed.

Q. Longest Substring Without Repeating Characters

Find the length of the longest substring without repeating characters.

Example:
- **Input: "pwwkew"**
- **Output: 3**

Explanation:
Longest substring "wke" length is 3.

Q. Merge k Sorted Lists

Merge multiple sorted linked lists.

Example:
- **Input: [[3, 4, 7], [1, 5, 8], [2, 6, 9]]**
- **Output: [1, 2, 3, 4, 5, 6, 7, 8, 9]**

Explanation:
Lists merged in sorted order.

Q. Top k Frequent Elements

Find k most frequent elements in an array.

Example:
- **Input: [4, 4, 4, 5, 5, 3], k = 2**
- **Output: [4, 5]**

Explanation:
Top 2 frequent elements are 4 and 5.

Q. LRU Cache

Implement a Least Recently Used (LRU) cache.

Example:
- **Input: LRUCache(2); put(1, 1); put(2, 2); get(1); put(3, 3); get(2); put(4, 4); get(1); get(3); get(4)**
- **Output: [1, -1, -1, 3, 4]**

Explanation:
LRU operations and evictions.

Q. Course ScheduleElements

Determine if all courses can be finished.

Example:
- **Input: numCourses = 3, prerequisites = [[1, 0], [2, 1]]**
- **Output: true**

Explanation:
Courses can be finished in order.

Q. Linked List Cycle

Detect if a linked list has a cycle.

Example:
- Input: head = [1, 2, 3, 4], pos = 1
- Output: true

Explanation:
Cycle exists where tail connects to 1st node.

Q. Trapping Rainwater

Calculate the amount of trapped rainwater.

Example:
- Input: height = [0, 1, 0, 2, 1, 0, 3]
- Output: 5

Explanation:
Trapped rainwater units are 5.

Q. Median of Two Sorted Arrays

Find the median of two sorted arrays.

Example:
- **Input: nums1 = [2, 5], nums2 = [3, 4]**
- **Output: 3.5**

Explanation:
Median is 3.5.

Q. Best Time to Buy and Sell Stock

Maximize profit by buying and selling stocks.

Example:
- **Input: prices = [6, 1, 3, 2, 5, 4]**
- **Output: 4**

Explanation:
Buy at 1, sell at 5, profit = 4.

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Q. Longest Common Prefix

Find the longest common prefix in an array of strings.

Example:
- Input: ["interview", "interval", "integrate"]
- Output: "inte"

Explanation:
Longest common prefix is "inte".

Q. Add Two Numbers

Add two numbers represented as linked lists.

Example:
- Input: l1 = [4, 5, 6], l2 = [3, 9, 8]
- Output: [7, 4, 5, 1]

Explanation:
654 + 893 = 1547.

Q. Non-Overlapping Intervals

Minimize number of intervals to remove for non-overlapping intervals.

Example:
- **Input: [[1, 4], [3, 5], [5, 8]]**
- **Output: 1**

Explanation:
Remove [1, 4] to make intervals non-overlapping

Q. Maximum Subarray

Find the subarray with the largest sum.

Example:
- **Input: nums = [-2, 3, -1, 5, -3, 2]**
- **Output: 7**

Explanation:
Subarray [3, -1, 5] has the largest sum = 7.

Q. Search in Rotated Sorted Array

Find the index of a target in a rotated sorted array.

Example:
- **Input: nums = [5, 6, 7, 0, 1, 2, 3], target = 6**
- **Output: 1**

Explanation:
Index of 6 is 1.

Q. Permutations

Return all possible permutations of an array.

Example:
- **Input: nums = [2, 3, 4]**
- **Output: [[2, 3, 4], [2, 4, 3], [3, 2, 4], [3, 4, 2], [4, 2, 3], [4, 3, 2]]**

Explanation:
All permutations of [2, 3, 4].

Q. Word Search

Check if a word exists in a 2D grid.

Example:
- Input: Board = [['D', 'O', 'G'], ['R', 'A', 'T'], ['C', 'A', 'T']], word = "CAT"
- Output: true

Explanation:
Word "CAT" exists in the grid.

Q. Number of Islands

Count the number of islands in a binary grid.

Example:
- Input: grid = [["1", "0", "0", "1"], ["1", "0", "1", "0"], ["0", "0", "1", "1"]]
- Output: 3

Explanation:
Three separate islands in the grid.

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Q. Valid Parentheses

Check if a string of parentheses is valid.

Example:
- Input: s = "({[()]})"
- Output: true

Explanation:
All parentheses are closed correctly.