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String

- Question 1: How to reverse a String in java? Can you write a program without using any java inbuilt methods?
- Question 2: Write a java program to check if two Strings are anagram in java?
- Question 3: Write a program to check if String has all unique characters in java?
- Question 4: How to check if one String is rotation of another String in java?
- Question 5 : How to find duplicate characters in String in java?
- Question 6 : Find first non repeated character in String in java?

- Question 7 : Find all substrings of String in java?
- Question 8: Find length of String without using any inbuilt method in java?
- Question 9: Write a program to print all permutations of String in java?

Array

- Question 10: Write java Program to Find Smallest and Largest Element in an Array.
- Question 11 : Find missing number in the array.
- Question 12 : Search an element in rotated and sorted array.
- Question 13: Find minimum element in a sorted and rotated array.
- Question 14: Find second largest number in an array
- Question 15: Find the number occurring odd number of times in an array
- Question 16: Find minimum number of platforms required for railway station
- Question 17: Find a Pair Whose Sum is Closest to zero in Array
- Question 18: Given a sorted array and a number x, find the pair in array whose sum is closest to x
- Question 19: Find all pairs of elements from an array whose sum is equal to given number
- Question 20: Given an array of 0's and 1's in random order, you need to separate 0's and 1's in an array.
- Question 21 : Separate odd and even numbers in an array
- Question 22: Given an array containing zeroes, ones and twos only. Write a function to sort the given array in O(n) time complexity.
- Question 23 : Find local minima in array
- Question 24 : Sliding window maximum in java

- Question 25 : Count number of occurrences (or frequency) of each element in a sorted array
- Question 26: Find subarrays with given sum in an array.
- Question 27 : Find peak element in the array.
- Question 28: Find leaders in an array.
- Question 29 : Count 1's in sorted Binary Array.
- Question 30: Find first repeating element in an array of integers.
- Question 31 : Check if Array Elements are Consecutive.
- Question 32 : Permutations of array in java.
- Question 33 : Rotate an array by K positions.
- Question 34 : Stock Buy Sell to Maximize Profit.
- Question 35: Find maximum difference between two elements such that larger element appears after the smaller number.
- Question 36: Search in a row wise and column wise sorted matrix.
- Question 37 : Largest sum contiguous subarray.
- Question 38: Find the Contiguous Subarray with Sum to a Given Value in an array.
- Question 39: Longest Common Prefix in an array of Strings in java.
- Question 40 : Find all subsets of set (power set) in java.

Stack

- Question 41: Implement a stack using array.
- Question 42: Implement a stack using Linked List.
- Question 43: Implement a stack using two queues.
- Question 44 : Sort an stack using another stack

Queue

- Question 45: Implement Queue using Array in java.
- Question 46: Implement a stack using two queues

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Linked List

- Question 47: Implement singly linked list in java.
- Question 48: How to reverse linked list in java.
- Question 49: How to find middle element of linked list.
- Question 50: How to find nth element from end of linked list.
- Question 51: How to detect a loop in linked list. If linked list has loop, find the start node for the loop.
- Question 52: How to check if linked list is palindrome or not?
- Question 53: Find intersection of two linked lists?
- Question 54: How to reverse a linked list in pairs?
- Question 55: Implement Doubly linked list in java?

Binary Tree

- Question 56: How can you traverse binary tree?
 - <u>PreOrder</u>
 - InOrder
 - PostOrder
- Question 57: Write an algorithm to do level order traversal of binary tree?
- Question 58: Write an algorithm to do spiral order traversal of binary tree?
- Question 59: How can you print leaf nodes of binary tree?
- Question 60 : How to count leaf nodes of binary tree.
- Question 61: How to print all paths from root to leaf in binary tree.

- Question 62 : How to find level of node in binary tree
- Question 63: How to find maximum element in binary tree.
- Question 64: How to find lowest common ancestor(LCA) in binary tree.
- Question 65: How to do boundary traversal of binary tree.
- Question 66: How to print vertical sum of binary tree?
- Question 67 : Count subtrees with Sum equal to target in binary tree?

Binary Search tree

- o Question 68: What is binary search tree?
- Question 69: Can you write algorithm to insert a node in binary search tree.
- Question 70 : Can you write algorithm to delete a node in binary search tree.
- Question 71: How can you find minimum and maximum elements in binary search tree?
- Question 72: How to find lowest common ancestor(LCA) in binary search tree.
- Question 73 : Find inorder successor in a Binary search Tree
- Question 74 : Convert sorted array to balanced BST
- Question 75 : Convert sorted Linked List to balanced BST
- Question 76 : Check if a binary tree is binary search tree or not in java

Sorting

- Question 77: Write an algorithm to implement bubble sort?
- Question 78: Write an algorithm to implement insertion sort sort?
- Question 79: Write an algorithm to implement selection sort sort?
- Question 80 : Can you write algorithm for merge sort and also do you know complexity of merge sort?
- Question 81 : Do you know how to implement Heap sort?
- Question 82 : Implement quick sort in java?
- Question 83: Implement shell sort in java?
- Question 84: Implement Counting sort in java?
- Question 85: What is binary search? Can you write an algorithm to find an element in sorted array using binary search?

Graph

- Question 86: Write algorithm to do depth first search in a graph.
- Question 87: Write algorithm to do breadth first saearch in a graph.
- Question 88: Explain Dijkstra algorithm from source to all other vertices.
- Question 89 : Explain Bellman Ford algorithm to find shortest distance
- Question 90 : Explain Kruskal's algorithm for finding minimum spanning tree

Dynamic Programming

 Question 91 : Given two String, find longest common substring.

- Question 92 : Given two Strings A and B. Find the length of the Longest Common Subsequence (LCS) of the given Strings.
- Question 93: Given a matrix, we need to count all paths from top left to bottom right of MxN matrix.
 You can either move down or right.
- o Question 94 : Edit Distance Problem in java
- o Question 95: Coin change problem in java
- Question 96 : Minimum number of jumps to reach last index

Miscellaneous

- Question 97: What is an algorithm and how to calculate complexity of algorithms.
- Question 98 : Implement trie data structure in java.
- Question 99 : Count Factorial Trailing Zeroes in java.
- Question 100 : Largest Rectangular Area in a Histogram.
- Question 101 : Check for balanced parentheses in an expression in java.
- Question 102: What is Memoization.

Java8_Coding

- Question 1: Given a list of employees, you need to filter all the employee whose age is greater than 20 and print the employee names.(Java 8 APIs only)
- Question 2: Given the list of employees, count number of employees with age 25?
- Question 3: Given the list of employees, find the employee with name "Mary".

- Question 4: Given a list of employee, find maximum age of employee?
- Question 5: Given a list of employees, sort all the employee on the basis of age? Use java 8 APIs only
- Question 6 :Join the all employee names with "," using java 8?
- Question 7: Given the list of employee, group them by employee name?
- Question 8: Java coding interview questions
- Question 9: Given a list of numbers, square them and filter the numbers which are greater 10000 and then find average of them.(Java 8 APIs only)
- Question 10: Given a list of integers, find out all the even numbers exist in the list using Stream functions?
- Question 11: Given a list of integers, find out all the numbers starting with 1 using Stream functions?
- Question 12: How to find duplicate elements in a given integers list in java using Stream functions?
- Question 13: Given the list of integers, find the first element of the list using Stream functions?
- Question 14: Given a list of integers, find the total number of elements present in the list using Stream functions?
- Question 15: Given a list of integers, find the maximum value element present in it using Stream functions?
- Question 16: Given a String, find the first nonrepeated character in it using Stream functions?
- Question 17: Given a String, find the first repeated character in it using Stream functions?
- Question 18: Given a list of integers, sort all the values present in it using Stream functions?

 Question 19: Given a list of integers, sort all the values present in it in descending order ausing <u>Stream functions?</u>

DynamicProgramming_Easy_Question

- Easy Question1: Best Time to Buy and Sell Stock
- Easy Question2 : Maximum Subarray
- Easy Question3 : Move Zeroes
- Easy Question4 : Two Sum
- Easy Question5 : Invert Binary Tree
- Easy Question6: Find the Town Judge
- Easy Question7 : Symmetric Tree
- Easy Question8 : Same Tree
- Easy Question9: House Robber
- Easy Question10 : Climbing Stairs
- Easy_Question11 : Min Cost Climbing Stairs
- Easy Question12: Maximum Depth of Binary Tree
- Easy Question 13: Find All The Lonely Nodes
- Easy_Question14: Check if a binary tree is subtree of another binary tree
- Easy_Question15 : Lowest Common Ancestor in a Binary Search Tree
- Easy_Question16 : Shortest Unsorted Continuous
 Subarray
- Easy Question17: Minimize cost of painting N houses such that adjacent houses have different colors
- Easy_Question18 : Is Subsequence
- Easy Question19: Merge Two Binary Trees
- Easy_Question20 : Painting Fence
- Easy_Question21 :Monotonic Array
- Easy_Question22 : Leaf-Similar Trees
- Easy_Question23 : Divisor game
- Easy Question24: Convert BST to Greater Tree
- Easy_Question25 : Majority Element