Topic: 'roblem:

Arrav	Reverse the array
-	Find the maximum and minimum element in an array
-	Find the "Kth" max and min element of an array
•	Given an array which consists of only 0, 1 and 2. Sort the
Array	Move all the negative elements to one side of the array
Array	Find the Union and Intersection of the two sorted array
Array	Write a program to cyclically rotate an array by one.
Array	find Largest sum contiguous Subarray [V. IMP]
Array	Minimise the maximum difference between heights [V.]
Array	Minimum no. of Jumps to reach end of an array
Array	find duplicate in an array of N+1 Integers
Array	Merge 2 sorted arrays without using Extra space.
Array	Kadane's Algo [V.V.V.V IMP]
Array	Merge Intervals
Array	Next Permutation
Array	Count Inversion
Array	Best time to buy and Sell stock
Array	find all pairs on integer array whose sum is equal to give
Array	find common elements In 3 sorted arrays
Array	Rearrange the array in alternating positive and negative
	rearrange the array in atternating positive and negative
Array	Find if there is any subarray with sum equal to 0
Array Array	
Array	Find if there is any subarray with sum equal to 0
Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number
Array Array Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray
Array Array Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence
Array Array Array Array Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence Given an array of size n and a number k, fin all elements
Array Array Array Array Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence Given an array of size n and a number k, fin all elements Maximum profit by buying and selling a share atmost ty
Array Array Array Array Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence Given an array of size n and a number k, fin all elements Maximum profit by buying and selling a share atmost to Find whether an array is a subset of another array
Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence Given an array of size n and a number k, fin all elements Maximum profit by buying and selling a share atmost to Find whether an array is a subset of another array Find the triplet that sum to a given value Trapping Rain water problem Chocolate Distribution problem
Array	Find if there is any subarray with sum equal to 0 Find factorial of a large number find maximum product subarray Find longest coinsecutive subsequence Given an array of size n and a number k, fin all elements Maximum profit by buying and selling a share atmost to Find whether an array is a subset of another array Find the triplet that sum to a given value Trapping Rain water problem

Array Three way partitioning of an array around a given value

Array Minimum swaps required bring elements less equal K to

Array Minimum no. of operations required to make an array p

Array Median of 2 sorted arrays of equal size

Array Median of 2 sorted arrays of different size

Matrix Spiral traversal on a Matrix

Matrix Search an element in a matriix

Matrix Find median in a row wise sorted matrix

Matrix Find row with maximum no. of 1's

Matrix Print elements in sorted order using row-column wise s

Matrix Maximum size rectangle

Matrix Find a specific pair in matrix

Matrix Rotate matrix by 90 degrees

Matrix Kth smallest element in a row-cpumn wise sorted matri

Matrix Common elements in all rows of a given matrix

String Reverse a String

String Check whether a String is Palindrome or not

String Find Duplicate characters in a string **String** Why strings are immutable in Java?

String Write a Code to check whether one string is a rotation c

String Write a Program to check whether a string is a valid shu

String Count and Say problem

String Write a program to find the longest Palindrome in a stri

String Find Longest Recurring Subsequence in String

String Print all Subsequences of a string.

String Print all the permutations of the given string

String Split the Binary string into two substring with equal 0's:

String Word Wrap Problem [VERY IMP].

String EDIT Distance [Very Imp]

String Find next greater number with same set of digits. [Very String Balanced Parenthesis problem.[Imp] String Word break Problem [Very Imp] **String** Rabin Karp Algo String KMP Algo String Convert a Sentence into its equivalent mobile numeric l **String** Minimum number of bracket reversals needed to make **String** Count All Palindromic Subsequence in a given String. **String** Count of number of given string in 2D character array **String** Search a Word in a 2D Grid of characters. **String** Boyer Moore Algorithm for Pattern Searching. **String** Converting Roman Numerals to Decimal **String** Longest Common Prefix **String** Number of flips to make binary string alternate **String** Find the first repeated word in string. **String** Minimum number of swaps for bracket balancing. **String** Find the longest common subsequence between two st String Program to generate all possible valid IP addresses from **String** Write a program to find the smallest window that conta **String** Rearrange characters in a string such that no two adjace **String** Minimum characters to be added at front to make string **String** Given a sequence of words, print all anagrams together **String** Find the smallest window in a string containing all chara **String** Recursively remove all adjacent duplicates **String** String matching where one string contains wildcard cha **String** Function to find Number of customers who could not ge **String** Transform One String to Another using Minimum Numb **String** Check if two given strings are isomorphic to each other

Searching & S Find first and last positions of an element in a sorted are Searching & S Find a Fixed Point (Value equal to index) in a given array

String Recursively print all sentences that can be formed from

```
Searching & S Search in a rotated sorted array
```

Searching & S square root of an integer

Searching & S Maximum and minimum of an array using minimum nu

Searching & So Optimum location of point to minimize total distance

Searching & S Find the repeating and the missing

Searching & Sifind majority element

Searching & S Searching in an array where adjacent differ by at most k

Searching & Safind a pair with a given difference

Searching & Sifind four elements that sum to a given value

Searching & Simaximum sum such that no 2 elements are adjacent

Searching & Scount triplet with sum smaller than a given value

Searching & S merge 2 sorted arrays

Searching & Seprint all subarrays with 0 sum

Searching & S. Product array Puzzle

Searching & S Sort array according to count of set bits

Searching & Siminimum no. of swaps required to sort the array

Searching & S. Bishu and Soldiers

Searching & Si Rasta and Kheshtak

Searching & Si Kth smallest number again

Searching & Search

Searching & S K-th Element of Two Sorted Arrays

Searching & S. Aggressive cows

Searching & S. Book Allocation Problem

Searching & SEKOSPOJ:

Searching & Scheduling Algo

Searching & S. Missing Number in AP

Searching & S Smallest number with atleastn trailing zeroes infactoria

Searching & S Painters Partition Problem:

Searching & S. ROTI-Prata SPOJ

Searching & S. DoubleHelix SPOJ

Searching & Subset Sums

Searching & Si Findthe inversion count

Searching & Samplement Merge-sort in-place

Searching & S. Partitioning and Sorting Arrays with Many Repeated Ent

LinkedLis Write a Program to reverse the Linked List. (Both Iterati

LinkedLis Reverse a Linked List in group of Given Size. [Very Imp]

LinkedLis Write a program to Detect loop in a linked list.

LinkedLis Write a program to Delete loop in a linked list.

LinkedLis Find the starting point of the loop.

LinkedLis Remove Duplicates in a sorted Linked List.

LinkedLis Remove Duplicates in a Un-sorted Linked List.

LinkedLis Write a Program to Move the last element to Front in a

LinkedLis Add "1" to a number represented as a Linked List.

LinkedLis Add two numbers represented by linked lists.

LinkedLis Intersection of two Sorted Linked List.

LinkedLis Intersection Point of two Linked Lists.

LinkedLis Merge Sort For Linked lists.[Very Important]

LinkedLis Quicksort for Linked Lists.[Very Important]

LinkedLis Find the middle Element of a linked list.

LinkedLis Check if a linked list is a circular linked list.

LinkedLis Split a Circular linked list into two halves.

LinkedLis Write a Program to check whether the Singly Linked list

LinkedLis Deletion from a Circular Linked List.

LinkedLis Reverse a Doubly Linked list.

LinkedLis Find pairs with a given sum in a DLL.

LinkedLis Count triplets in a sorted DLL whose sum is equal to give

LinkedLis Sort a "k" sorted Doubly Linked list. [Very IMP]

LinkedLis Rotate DoublyLinked list by N nodes.

LinkedLis Rotate a Doubly Linked list in group of Given Size. [Very

LinkedLis Can we reverse a linked list in less than O(n)?

LinkedLis Why Quicksort is preferred for. Arrays and Merge Sort f

LinkedLis Flatten a Linked List

LinkedLis Sort a LL of 0's, 1's and 2's

LinkedLis Clone a linked list with next and random pointer

LinkedLis Merge K sorted Linked list

LinkedLis Multiply 2 no. represented by LL

LinkedLis Delete nodes which have a greater value on right side

LinkedLis Segregate even and odd nodes in a Linked List

LinkedLis Program for n'th node from the end of a Linked List

LinkedLis Find the first non-repeating character from a stream of

Binary Tre level order traversal

Binary Tre Reverse Level Order traversal

Binary Tre <u>Height of a tree</u>

Binary Tre Diameter of a tree

Binary Tre Mirror of a tree

Binary Tre Inorder Traversal of a tree both using recursion and Iter

Binary Tre Preorder Traversal of a tree both using recursion and Ite

Binary Tre Postorder Traversal of a tree both using recursion and It

Binary Tre Left View of a tree

Binary Tre Right View of Tree

Binary Tre Top View of a tree

Binary Tre Bottom View of a tree

Binary Tre Zig-Zag traversal of a binary tree

Binary Tre Check if a tree is balanced or not

Binary Tre Diagnol Traversal of a Binary tree

Binary Tre Boundary traversal of a Binary tree

Binary Tre Construct Binary Tree from String with Bracket Represe

Binary Tre Convert Binary tree into Doubly Linked List

Binary Tre Convert Binary tree into Sum tree

Binary Tre Construct Binary tree from Inorder and preorder travers

Binary Tre Find minimum swaps required to convert a Binary tree i

Binary Tre Check if Binary tree is Sum tree or not

Binary Tre Check if all leaf nodes are at same level or not

Binary Tre Check if a Binary Tree contains duplicate subtrees of size

Binary Tre Check if 2 trees are mirror or not

Binary Tre Sum of Nodes on the Longest path from root to leaf noc

Binary Tre Check if given graph is tree or not. [IMP]

Binary Tre Find Largest subtree sum in a tree

Binary Tre Maximum Sum of nodes in Binary tree such that no two

Binary Tre Print all "K" Sum paths in a Binary tree

Binary Tre Find LCA in a Binary tree

Binary Tre Find distance between 2 nodes in a Binary tree

Binary Tre Kth Ancestor of node in a Binary tree

Binary Tre Find all Duplicate subtrees in a Binary tree [IMP]

Binary Tre <u>Tree Isomorphism Problem</u>

Binary Search Fina a value in a BST

Binary Search Deletion of a node in a BST

Binary Search Find min and max value in a BST

Binary Search Find inorder successor and inorder predecessor in a BST

Binary Search Check if a tree is a BST or not

Binary Search Populate Inorder successor of all nodes

Binary Search Find LCA of 2 nodes in a BST

Binary Search Construct BST from preorder traversal

Binary Search Convert Binary tree into BST

Binary Search Convert a normal BST into a Balanced BST

Binary Search Merge two BST [V.V.V>IMP]

Binary Search Find Kth largest element in a BST

Binary Search Find Kth smallest element in a BST

Binary Search Count pairs from 2 BST whose sum is equal to given value

Binary Search Find the median of BST in O(n) time and O(1) space

Binary Search Count BST ndoes that lie in a given range

Binary Search Replace every element with the least greater element o

Binary Search Given "n" appointments, find the conflicting appointme

Binary Search Check preorder is valid or not

Binary Search Check whether BST contains Dead end

Binary Search Largest BST in a Binary Tree [V.V.V.V IMP]

Binary Search Flatten BST to sorted list

Greedy Activity Selection Problem

Greedy Job SequencingProblem

Greedy Huffman Coding

Greedy Water Connection Problem

Greedy Fractional Knapsack Problem

Greedy Greedy Algorithm to find Minimum number of Coins

Greedy Maximum trains for which stoppage can be provided

Greedy Minimum Platforms Problem

Greedy Buy Maximum Stocks if i stocks can be bought on i-th da

Greedy Find the minimum and maximum amount to buy all N c

Greedy Minimize Cash Flow among a given set of friends who h

Greedy Minimum Cost to cut a board into squares

Greedy Check if it is possible to survive on Island

Greedy Find maximum meetings in one room

Greedy Maximum product subset of an array

Greedy Maximize array sum after K negations

Greedy Maximize the sum of arr[i]*i

Greedy Maximum sum of absolute difference of an array

Greedy Maximize sum of consecutive differences in a circular au

Greedy Minimum sum of absolute difference of pairs of two arr

Greedy Program for Shortest Job First (or SJF) CPU Scheduling

Greedy Program for Least Recently Used (LRU) Page Replaceme

Greedy Smallest subset with sum greater than all other elemen

Greedy Chocolate Distribution Problem

Greedy <u>DEFKIN -Defense of a Kingdom</u>

Greedy <u>DIEHARD -DIE HARD</u>

Greedy GERGOVIA -Wine trading in Gergovia

Greedy Picking Up Chicks

Greedy CHOCOLA -Chocolate

Greedy ARRANGE -Arranging Amplifiers

Greedy K Centers Problem

Greedy Minimum Cost of ropes

Greedy Find smallest number with given number of digits and s

Greedy Rearrange characters in a string such that no two adjace

Greedy Find maximum sum possible equal sum of three stacks

BackTracki Rat in a maze Problem

BackTracki Printing all solutions in N-Queen Problem

BackTracki Word Break Problem using Backtracking

BackTracki Remove Invalid Parentheses

BackTracki Sudoku Solver

BackTracki m Coloring Problem

BackTracki Print all palindromic partitions of a string

BackTracki Subset Sum Problem

BackTracki The Knight's tour problem

BackTracki Tug of War

BackTracki Find shortest safe route in a path with landmines

BackTracki Combinational Sum

BackTracki Find Maximum number possible by doing at-most K swa

BackTracki Print all permutations of a string

BackTracki Find if there is a path of more than k length from a sour

BackTracki Longest Possible Route in a Matrix with Hurdles

BackTracki Print all possible paths from top left to bottom right of a

BackTracki Partition of a set intoK subsets with equal sum

BackTracki Find the K-th Permutation Sequence of first N natural n

Stacks & Qui Implement Stack from Scratch

Stacks & Qui Implement Queue from Scratch

Stacks & Quilmplement 2 stack in an array

Stacks & Quifind the middle element of a stack

Stacks & Quilmplement "N" stacks in an Array

```
Stacks & Qui Check the expression has valid or Balanced parenthesis
Stacks & Qui Reverse a String using Stack
Stacks & Qui Design a Stack that supports getMin() in O(1) time and (
Stacks & Qui Find the next Greater element
Stacks & QuiThe celebrity Problem
Stacks & Qui Arithmetic Expression evaluation
Stacks & Qui Evaluation of Postfix expression
Stacks & Quilmplement a method to insert an element at its bottom
Stacks & Qui Reverse a stack using recursion
Stacks & QuiSort a Stack using recursion
Stacks & Qui Merge Overlapping Intervals
Stacks & Qui Largest rectangular Area in Histogram
Stacks & Qui Length of the Longest Valid Substring
Stacks & Qui Expression contains redundant bracket or not
Stacks & Quelmplement Stack using Queue
Stacks & Qualmplement Stack using Deque
Stacks & QuiStack Permutations (Check if an array is stack permutati
Stacks & Qualmplement Queue using Stack
Stacks & Qualmplement "n" queue in an array
Stacks & Que Implement a Circular queue
Stacks & QuilkU Cache Implementationa
Stacks & Qui Reverse a Queue using recursion
Stacks & Qui Reverse the first "K" elements of a queue
Stacks & Qualiterleave the first half of the gueue with second half
Stacks & Qui Find the first circular tour that visits all Petrol Pumps
Stacks & Qu Minimum time required to rot all oranges
Stacks & Qui Distance of nearest cell having 1 in a binary matrix
Stacks & Qui First negative integer in every window of size "k"
Stacks & Qui Check if all levels of two trees are anagrams or not.
Stacks & QuiSum of minimum and maximum elements of all subarra
Stacks & Qui Minimum sum of squares of character counts in a given
Stacks & Qui Queue based approach or first non-repeating character
Stacks & QueNext Smaller Element
```

- Heap Implement a Maxheap/MinHeap using arrays and recur
- Heap Sort an Array using heap. (HeapSort)
- Heap Maximum of all subarrays of size k.
- Heap "k" largest element in an array
- Heap Kth smallest and largest element in an unsorted array
- Heap Merge "K" sorted arrays. [IMP]
- Heap Merge 2 Binary Max Heaps
- Heap Kth largest sum continuous subarrays
- Heap Leetcode- reorganize strings
- Heap Merge "K" Sorted Linked Lists [V.IMP]
- **Heap** Smallest range in "K" Lists
- **Heap** Median in a stream of Integers
- Heap Check if a Binary Tree is Heap
- Heap Connect "n" ropes with minimum cost
- Heap Convert BST to Min Heap
- **Heap** Convert min heap to max heap
- Heap Rearrange characters in a string such that no two adjace
- Heap Minimum sum of two numbers formed from digits of ar
- Graph Create a Graph, print it
- **Graph** Implement BFS algorithm
- **Graph** Implement DFS Algo
- **Graph** Detect Cycle in Directed Graph using BFS/DFS Algo
- **Graph** Detect Cycle in UnDirected Graph using BFS/DFS Algo
- **Graph** Search in a Maze
- **Graph** Minimum Step by Knight
- Graph flood fill algo
- **Graph** Clone a graph
- **Graph** Making wired Connections
- **Graph** word Ladder

Graph Dijkstra algo **Graph** Implement Topological Sort **Graph** Minimum time taken by each job to be completed giver **Graph** Find whether it is possible to finish all tasks or not from **Graph** Find the no. of Isalnds **Graph** Given a sorted Dictionary of an Alien Language, find ord **Graph** Implement Kruksal's Algorithm **Graph** Implement Prim's Algorithm **Graph** Total no. of Spanning tree in a graph **Graph** Implement Bellman Ford Algorithm **Graph** Implement Floyd warshallAlgorithm **Graph** Travelling Salesman Problem **Graph** Graph ColouringProblem **Graph** Snake and Ladders Problem **Graph** Find bridge in a graph **Graph** Count Strongly connected Components (Kosaraju Algo) **Graph** Check whether a graph is Bipartite or Not **Graph** Detect Negative cycle in a graph **Graph** Longest path in a Directed Acyclic Graph **Graph** Journey to the Moon **Graph** Cheapest Flights Within K Stops **Graph** Oliver and the Game **Graph** Water Jug problem using BFS **Graph** Water Jug problem using BFS **Graph** Find if there is a path of more thank length from a source **Graph** M-ColouringProblem **Graph** Minimum edges to reverse o make path from source to **Graph** Paths to travel each nodes using each edge(Seven Bridg **Graph** Vertex Cover Problem **Graph** Chinese Postman or Route Inspection **Graph** Number of Triangles in a Directed and Undirected Grap **Graph** Minimise the cashflow among a given set of friends who

Graph Two Clique Problem

Trie Construct a trie from scratch

Trie Find shortest unique prefix for every word in a given list

Trie Word Break Problem | (Trie solution)

Trie Given a sequence of words, print all anagrams together

Trie Implement a Phone Directory

Trie Print unique rows in a given boolean matrix

Dynamic Progra Coin ChangeProblem

Dynamic Progra Knapsack Problem

Dynamic Progra Binomial CoefficientProblem

Dynamic Progra <u>Permutation CoefficientProblem</u>

Dynamic Progra Program for nth Catalan Number

Dynamic Progra Matrix Chain Multiplication

Dynamic Progra Edit Distance

Dynamic Progra <u>Subset Sum Problem</u>

Dynamic Progra Friends Pairing Problem

Dynamic Progra Gold Mine Problem

Dynamic Progra <u>Assembly Line SchedulingProblem</u>

Dynamic Progra Painting the Fenceproblem

Dynamic Progra Maximize The Cut Segments

Dynamic Progra Longest Common Subsequence

Dynamic Progra Longest Repeated Subsequence

Dynamic Progra Longest Increasing Subsequence

Dynamic Progra Space Optimized Solution of LCS

Dynamic Progra LCS (Longest Common Subsequence) of three strings

Dynamic Progra Maximum Sum Increasing Subsequence

Dynamic Progra Count all subsequences having product less than K

Dynamic Progra Longest subsequence such that difference between adja

Dynamic Progra Maximum subsequence sum such that no three are con

Dynamic Progra Egg Dropping Problem

Dynamic Progra Maximum Length Chain of Pairs

Dynamic Progra Maximum size square sub-matrix with all 1s

Dynamic Progra Maximum sum of pairs with specific difference

Dynamic Progra Min Cost PathProblem

Dynamic Progra Maximum difference of zeros and ones in binary string

Dynamic Progra Minimum number of jumps to reach end

Dynamic Progra Minimum cost to fill given weight in a bag

Dynamic Progra Minimum removals from array to make max –min <= K

Dynamic Progra Longest Common Substring

Dynamic Progra Count number of ways to reacha given score in a game

Dynamic Progra Count Balanced Binary Trees of Height h

Dynamic Progra LargestSum Contiguous Subarray [V>V>V IMP]

Dynamic Progra Smallest sum contiguous subarray

Dynamic Progra <u>Unbounded Knapsack (Repetition of items allowed)</u>

Dynamic Progra Word Break Problem

Dynamic Progra Largest Independent Set Problem

Dynamic Progra Partition problem

Dynamic Progra Longest Palindromic Subsequence

Dynamic Progra Count All Palindromic Subsequence in a given String

Dynamic Progra Longest Palindromic Substring

Dynamic Progra Longest alternating subsequence

Dynamic Progra Weighted Job Scheduling

Dynamic Progra Coin game winner where every player has three choices

Dynamic Progra Count Derangements (Permutation such that no element of the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit by buying and selling a share at most the Dynamic Progra Maximum profit

Dynamic Progra Optimal Strategy for a Game

Dynamic Progra Optimal Binary Search Tree

Dynamic Progra Palindrome PartitioningProblem

Dynamic Progra Word Wrap Problem

Dynamic Progra Mobile Numeric Keypad Problem [IMP]

Dynamic Progra Boolean Parenthesization Problem

Dynamic Progra Largest rectangular sub-matrix whose sum is 0

Dynamic Progra Largest area rectangular sub-matrix with equal number

Dynamic Progra Maximum sum rectangle in a 2D matrix

Dynamic Progra Maximum profit by buying and selling a share at most k

Dynamic Progra Find if a string is interleaved of two other strings

Dynamic Progra Maximum Length of Pair Chain

Bit Manipula Count set bits in an integer

Bit Manipula Find the two non-repeating elements in an array of repe

Bit Manipula Count number of bits to be flipped to convert A to B

Bit Manipula Count total set bits in all numbers from 1 to n

Bit Manipula Program to find whether a no is power of two

Bit Manipula Find position of the only set bit

Bit Manipula Copy set bits in a range

Bit Manipula Divide two integers without using multiplication, divisio

Bit Manipula Calculate square of a number without using *, / and por

Bit Manipula Power Set

