Topic:	Problem:								
Array	Reverse the array								
Array	Find the maximum and minimum element in an array								
Array	Find the "Kth" max and min element of an array								
Array	Given an array which consists of only 0, 1 and 2. Sort the array without using any sorting algo								
Array	Move all the negative elements to one side of the array								
Array	Find the Union and Intersection of the two sorted arrays.								
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.IMP]								
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.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 given number								
Array	find common elements In 3 sorted arrays								
Array	Rearrange the array in alternating positive and negative items with O(1) extra space								
Array	Find if there is any subarray with sum equal to 0								
Array	Find factorial of a large number								

Array	find maximum product subarray
Array	Find longest coinsecutive subsequence
Array	Given an array of size n and a number k, fin all elements that appear more than " n/k " times.
Array	Maximum profit by buying and selling a share atmost twice
Array	Find whether an array is a subset of another array
Array	Find the triplet that sum to a given value
Array	Trapping Rain water problem
Array	Chocolate Distribution problem
Array	Smallest Subarray with sum greater than a given value
Array	Three way partitioning of an array around a given value
Array	Minimum swaps required bring elements less equal K together
Array	Minimum no. of operations required to make an array palindrome
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 sorted matrix
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 matrix

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 of another						
String	Write a Program to check whether a string is a valid shuffle of two strings or not						
String	Count and Say problem						
String	Write a program to find the longest Palindrome in a string.[Longest palindromic Substring]						
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 and 1's						
String	Word Wrap Problem [VERY IMP].						
String	EDIT Distance [Very Imp]						
String	Find next greater number with same set of digits. [Very Very IMP]						
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 keypad sequence.						
String	Minimum number of bracket reversals needed to make an expression balanced.						
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 strings.](#)
String	[Program to generate all possible valid IP addresses from given string.](#)
String	[Write a program tofind the smallest window that contains all characters of string itself.](#)
String	[Rearrange characters in a string such that no two adjacent are same](#)
String	[Minimum characters to be added at front to make string palindrome](#)
String	[Given a sequence of words, print all anagrams together](#)
String	[Find the smallest window in a string containing all characters of another string](#)
String	[Recursively remove all adjacent duplicates](#)
String	[String matching where one string contains wildcard characters](#)
String	[Function to find Number of customers who could not get a computer](#)
String	[Transform One String to Another using Minimum Number of Given Operation](#)
String	[Check if two given strings are isomorphic to each other](#)
String	[Recursively print all sentences that can be formed from list of word lists](#)
rching & Sort	[Find first and last positions of an element in a sorted array](#)
rching & Sort	[Find a Fixed Point (Value equal to index) in a given array](#)

rching & Sort	Search in a rotated sorted array					
rching & Sort	square root of an integer					
rching & Sort	Maximum and minimum of an array using minimum number of comparisons					
rching & Sort	Optimum location of point to minimize total distance					
rching & Sort	Find the repeating and the missing					
rching & Sort	find majority element					
rching & Sort	Searching in an array where adjacent differ by at most k					
rching & Sort	find a pair with a given difference					
rching & Sort	find four elements that sum to a given value					
rching & Sort	maximum sum such that no 2 elements are adjacent					
rching & Sort	Count triplet with sum smaller than a given value					
rching & Sort	merge 2 sorted arrays					
rching & Sort	print all subarrays with 0 sum					
rching & Sort	Product array Puzzle					
rching & Sort	Sort array according to count of set bits					
rching & Sort	minimum no. of swaps required to sort the array					
rching & Sort	Bishu and Soldiers					
rching & Sort	Rasta and Kheshtak					
rching & Sort	Kth smallest number again					
rching & Sort	Find pivot element in a sorted array					
rching & Sort	K-th Element of Two Sorted Arrays					
rching & Sort	Aggressive cows					
rching & Sort	Book Allocation Problem					
rching & Sort	EKOSPOJ:					

rching & Sort	Job Scheduling Algo						
rching & Sort	Missing Number in AP						
rching & Sort	Smallest number with atleastn trailing zeroes infactorial						
rching & Sort	Painters Partition Problem:						
rching & Sort	ROTI-Prata SPOJ						
rching & Sort	DoubleHelix SPOJ						
rching & Sort	Subset Sums						
rching & Sort	Findthe inversion count						
rching & Sort	Implement Merge-sort in-place						
rching & Sort	Partitioning and Sorting Arrays with Many Repeated Entries						
LinkedList	Write a Program to reverse the Linked List. (Both Iterative and recursive)						
LinkedList	Reverse a Linked List in group of Given Size. [Very Imp]						
LinkedList	Write a program to Detect loop in a linked list.						
LinkedList	Write a program to Delete loop in a linked list.						
LinkedList	Find the starting point of the loop.						
LinkedList	Remove Duplicates in a sorted Linked List.						
LinkedList	Remove Duplicates in a Un-sorted Linked List.						
LinkedList	Write a Program to Move the last element to Front in a Linked List.						
LinkedList	Add "1" to a number represented as a Linked List.						
LinkedList	Add two numbers represented by linked lists.						
LinkedList	Intersection of two Sorted Linked List.						
LinkedList	Intersection Point of two Linked Lists.						
LinkedList	Merge Sort For Linked lists.[Very Important]						

LinkedList	Quicksort for Linked Lists.[Very Important]						
LinkedList	Find the middle Element of a linked list.						
LinkedList	Check if a linked list is a circular linked list.						
LinkedList	Split a Circular linked list into two halves.						
LinkedList	Write a Program to check whether the Singly Linked list is a palindrome or not.						
LinkedList	Deletion from a Circular Linked List.						
LinkedList	Reverse a Doubly Linked list.						
LinkedList	Find pairs with a given sum in a DLL.						
LinkedList	Count triplets in a sorted DLL whose sum is equal to given value "X".						
LinkedList	Sort a "k"sorted Doubly Linked list.[Very IMP]						
LinkedList	Rotate DoublyLinked list by N nodes.						
LinkedList	Rotate a Doubly Linked list in group of Given Size.[Very IMP]						
LinkedList	Can we reverse a linked list in less than O(n) ?						
LinkedList	Why Quicksort is preferred for. Arrays and Merge Sort for LinkedLists ?						
LinkedList	Flatten a Linked List						
LinkedList	Sort a LL of 0's, 1's and 2's						
LinkedList	Clone a linked list with next and random pointer						
LinkedList	Merge K sorted Linked list						
LinkedList	Multiply 2 no. represented by LL						
LinkedList	Delete nodes which have a greater value on right side						
LinkedList	Segregate even and odd nodes in a Linked List						
LinkedList	Program for n'th node from the end of a Linked List						
LinkedList	Find the first non-repeating character from a stream of characters						

Binary Trees	level order traversal							
Binary Trees	Reverse Level Order traversal							
Binary Trees	Height of a tree							
Binary Trees	Diameter of a tree							
Binary Trees	Mirror of a tree							
Binary Trees	Inorder Traversal of a tree both using recursion and Iteration							
Binary Trees	Preorder Traversal of a tree both using recursion and Iteration							
Binary Trees	Postorder Traversal of a tree both using recursion and Iteration							
Binary Trees	Left View of a tree							
Binary Trees	Right View of Tree							
Binary Trees	Top View of a tree							
Binary Trees	Bottom View of a tree							
Binary Trees	Zig-Zag traversal of a binary tree							
Binary Trees	Check if a tree is balanced or not							
Binary Trees	Diagnol Traversal of a Binary tree							
Binary Trees	Boundary traversal of a Binary tree							
Binary Trees	Construct Binary Tree from String with Bracket Representation							
Binary Trees	Convert Binary tree into Doubly Linked List							
Binary Trees	Convert Binary tree into Sum tree							
Binary Trees	Construct Binary tree from Inorder and preorder traversal							
Binary Trees	Find minimum swaps required to convert a Binary tree into BST							
Binary Trees	Check if Binary tree is Sum tree or not							
Binary Trees	Check if all leaf nodes are at same level or not							
Binary Trees	Check if a Binary Tree contains duplicate subtrees of size 2 or more [IMP]							

Binary Trees	Check if 2 trees are mirror or not						
Binary Trees	Sum of Nodes on the Longest path from root to leaf node						
Binary Trees	Check if given graph is tree or not. [IMP]						
Binary Trees	Find Largest subtree sum in a tree						
Binary Trees	Maximum Sum of nodes in Binary tree such that no two are adjacent						
Binary Trees	Print all "K" Sum paths in a Binary tree						
Binary Trees	Find LCA in a Binary tree						
Binary Trees	Find distance between 2 nodes in a Binary tree						
Binary Trees	Kth Ancestor of node in a Binary tree						
Binary Trees	Find all Duplicate subtrees in a Binary tree [IMP]						
Binary Trees	Tree Isomorphism Problem						
ary Search Tr	Fina a value in a BST						
ary Search Tr	Deletion of a node in a BST						
ary Search Tr	Find min and max value in a BST						
ary Search Tr	Find inorder successor and inorder predecessor in a BST						
ary Search Tr	Check if a tree is a BST or not						
ary Search Tr	Populate Inorder successor of all nodes						
ary Search Tr	Find LCA of 2 nodes in a BST						
ary Search Tr	Construct BST from preorder traversal						
ary Search Tr	Convert Binary tree into BST						
ary Search Tr	Convert a normal BST into a Balanced BST						
ary Search Tr	Merge two BST [V.V.V>IMP]						
ary Search Tr	Find Kth largest element in a BST						

ary Search Tr	Find Kth smallest element in a BST
ary Search Tr	Count pairs from 2 BST whose sum is equal to given value "X"
ary Search Tr	Find the median of BST in O(n) time and O(1) space
ary Search Tr	Count BST ndoes that lie in a given range
ary Search Tr	Replace every element with the least greater element on its right
ary Search Tr	Given "n" appointments, find the conflicting appointments
ary Search Tr	Check preorder is valid or not
ary Search Tr	Check whether BST contains Dead end
ary Search Tr	Largest BST in a Binary Tree [V.V.V.V.V IMP]
ary Search Tr	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 day
Greedy	Find the minimum and maximum amount to buy all N candies
Greedy	Minimize Cash Flow among a given set of friends who have borrowed money from each other
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 array					
Greedy	Minimum sum of absolute difference of pairs of two arrays					
Greedy	Program for Shortest Job First (or SJF) CPU Scheduling					
Greedy	Program for Least Recently Used (LRU) Page Replacement algorithm					
Greedy	Smallest subset with sum greater than all other elements					
Greedy	Chocolate Distribution Problem					
Greedy	DEFKIN -Defense of a Kingdom					
Greedy	DIEHARD -DIE HARD					
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 sum of digits					
Greedy	Rearrange characters in a string such that no two adjacent are same					
Greedy	Find maximum sum possible equal sum of three stacks					
BackTracking	Rat in a maze Problem					

BackTracking	[Printing all solutions in N-Queen Problem](#)					
BackTracking	[Word Break Problem using Backtracking](#)					
BackTracking	[Remove Invalid Parentheses](#)					
BackTracking	[Sudoku Solver](#)					
BackTracking	[m Coloring Problem](#)					
BackTracking	[Print all palindromic partitions of a string](#)					
BackTracking	[Subset Sum Problem](#)					
BackTracking	[The Knight's tour problem](#)					
BackTracking	[Tug of War](#)					
BackTracking	[Find shortest safe route in a path with landmines](#)					
BackTracking	[Combinational Sum](#)					
BackTracking	[Find Maximum number possible by doing at-most K swaps](#)					
BackTracking	[Print all permutations of a string](#)					
BackTracking	[Find if there is a path of more than k length from a source](#)					
BackTracking	[Longest Possible Route in a Matrix with Hurdles](#)					
BackTracking	[Print all possible paths from top left to bottom right of a mXn matrix](#)					
BackTracking	[Partition of a set intoK subsets with equal sum](#)					
BackTracking	[Find the K-th Permutation Sequence of first N natural numbers](#)					
acks & Queue	[Implement Stack from Scratch](#)					
acks & Queue	[Implement Queue from Scratch](#)					
acks & Queue	[Implement 2 stack in an array](#)					
acks & Queue	[find the middle element of a stack](#)					
acks & Queue	[Implement "N" stacks in an Array](#)					

acks & Queu	[Check the expression has valid or Balanced parenthesis or not.](#)					
acks & Queu	[Reverse a String using Stack](#)					
acks & Queu	[Design a Stack that supports getMin() in O(1) time and O(1) extra space.](#)					
acks & Queu	[Find the next Greater element](#)					
acks & Queu	[The celebrity Problem](#)					
acks & Queu	[Arithmetic Expression evaluation](#)					
acks & Queu	[Evaluation of Postfix expression](#)					
acks & Queu	[Implement a method to insert an element at its bottom without using any other data structure.](#)					
acks & Queu	[Reverse a stack using recursion](#)					
acks & Queu	[Sort a Stack using recursion](#)					
acks & Queu	[Merge Overlapping Intervals](#)					
acks & Queu	[Largest rectangular Area in Histogram](#)					
acks & Queu	[Length of the Longest Valid Substring](#)					
acks & Queu	[Expression contains redundant bracket or not](#)					
acks & Queu	[Implement Stack using Queue](#)					
acks & Queu	[Implement Stack using Deque](#)					
acks & Queu	[Stack Permutations (Check if an array is stack permutation of other)](#)					
acks & Queu	[Implement Queue using Stack](#)					
acks & Queu	[Implement "n" queue in an array](#)					
acks & Queu	[Implement a Circular queue](#)					
acks & Queu	[LRU Cache Implementationa](#)					
acks & Queu	[Reverse a Queue using recursion](#)					
acks & Queu	[Reverse the first "K" elements of a queue](#)					
acks & Queu	[Interleave the first half of the queue with second half](#)					

acks & Queu	[Find the first circular tour that visits all Petrol Pumps](#)				
acks & Queu	[Minimum time required to rot all oranges](#)				
acks & Queu	[Distance of nearest cell having 1 in a binary matrix](#)				
acks & Queu	[First negative integer in every window of size "k"](#)				
acks & Queu	[Check if all levels of two trees are anagrams or not.](#)				
acks & Queu	[Sum of minimum and maximum elements of all subarrays of size "k".](#)				
acks & Queu	[Minimum sum of squares of character counts in a given string after removing "k" characters.](#)				
acks & Queu	[Queue based approach or first non-repeating character in a stream.](#)				
acks & Queu	[Next Smaller Element](#)				
Heap	[Implement a Maxheap/MinHeap using arrays and recursion.](#)				
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 adjacent are same.
Heap	Minimum sum of two numbers formed from digits of an array
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 given by a Directed Acyclic Graph
Graph	Find whether it is possible to finish all tasks or not from given dependencies
Graph	Find the no. of Isalnds
Graph	Given a sorted Dictionary of an Alien Language, find order of characters
Graph	Implement Kruksal'sAlgorithm
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 destination					
Graph	Paths to travel each nodes using each edge(Seven Bridges)					
Graph	Vertex Cover Problem					
Graph	Chinese Postman or Route Inspection					
Graph	Number of Triangles in a Directed and Undirected Graph					
Graph	Minimise the cashflow among a given set of friends who have borrowed money from each other					

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							
mic Program	Coin ChangeProblem							
mic Program	Knapsack Problem							
mic Program	Binomial CoefficientProblem							
mic Program	Permutation CoefficientProblem							
mic Program	Program for nth Catalan Number							
mic Program	Matrix Chain Multiplication							
mic Program	Edit Distance							
mic Program	Subset Sum Problem							
mic Program	Friends Pairing Problem							
mic Program	Gold Mine Problem							
mic Program	Assembly Line SchedulingProblem							
mic Program	Painting the Fenceproblem							
mic Program	Maximize The Cut Segments							
mic Program	Longest Common Subsequence							

mic Program	Longest Repeated Subsequence
mic Program	Longest Increasing Subsequence
mic Program	Space Optimized Solution of LCS
mic Program	LCS (Longest Common Subsequence) of three strings
mic Program	Maximum Sum Increasing Subsequence
mic Program	Count all subsequences having product less than K
mic Program	Longest subsequence such that difference between adjacent is one
mic Program	Maximum subsequence sum such that no three are consecutive
mic Program	Egg Dropping Problem
mic Program	Maximum Length Chain of Pairs
mic Program	Maximum size square sub-matrix with all 1s
mic Program	Maximum sum of pairs with specific difference
mic Program	Min Cost PathProblem
mic Program	Maximum difference of zeros and ones in binary string
mic Program	Minimum number of jumps to reach end
mic Program	Minimum cost to fill given weight in a bag
mic Program	Minimum removals from array to make max −min <= K
mic Program	Longest Common Substring
mic Program	Count number of ways to reacha given score in a game
mic Program	Count Balanced Binary Trees of Height h
mic Program	LargestSum Contiguous Subarray [V>V>V>V IMP]
mic Program	Smallest sum contiguous subarray
mic Program	Unbounded Knapsack (Repetition of items allowed)
mic Program	Word Break Problem

t Manipulatic	Find the two non-repeating elements in an array of repeating elements					
t Manipulatic	Count number of bits to be flipped to convert A to B					
t Manipulatic	Count total set bits in all numbers from 1 to n					
t Manipulatic	Program to find whether a no is power of two					
t Manipulatic	Find position of the only set bit					
t Manipulatic	Copy set bits in a range					
t Manipulatic	Divide two integers without using multiplication, division and mod operator					
t Manipulatic	Calculate square of a number without using *, / and pow()					
t Manipulatic	Power Set					