

Topic:

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Searching & Sorting

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Dynamic Programming
Dynamic Programming

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Bit Manipulation
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Bit Manipulation

Modified by [Tushar Sadhwani](#). Some questions are close approximations of the original. Original sheet is also attached below. **How to use:** [Make a copy](#), then select the first column and reset the background color. Then solve. Remember that if the solution is locked or not very good, Discussions page sorted by Most Votes will probably have a better [GitHub Repository](#) (for submitting issues) | [My solutions](#) (Python)

Problem:

[Reverse the 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 without using any sorting algo](#)

[Move all the negative elements to one side of the array](#)

[Find the Union and Intersection of the two arrays.](#)

[Write a program to cyclically rotate an array by one.](#)

[find Largest sum contiguous Subarray |V. IMP|](#)

[Minimise the maximum difference between heights |V.IMP|](#)

[Minimum no. of Jumps to reach end of an array](#)

[find duplicate in an array of N+1 Integers](#)

[Merge 2 sorted arrays without using Extra space.](#)

[Kadane's Algo |V.V.V.V.V IMP|](#)

[Merge Intervals](#)

[Next Permutation](#)

[Count Inversion](#)

[Best time to buy and Sell stock](#)

[find all pairs on integer array whose sum is equal to given number](#)

[find common elements In 3 sorted arrays](#)

[Rearrange the array in alternating positive and negative items with O\(1\) extra space](#)

[Find if there is any subarray with sum equal to 0](#)

[Find factorial of a large number](#)

[find maximum product subarray](#)

[Find longest consecutive subsequence](#)

[Given an array of size n and a number k, find all elements that appear more than " n/k " times.](#)

[Maximum profit by buying and selling a share atmost twice](#)

[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 \(Related: Closest Subsequence Sum\)](#)

[Smallest Subarray with sum greater than a given value](#)

[Three way partitioning of an array around a given value](#)

[Minimum swaps required bring elements less equal K together](#)

[Minimum no. of operations required to make an array palindrome](#)

[Median of 2 sorted arrays of equal size](#)

[Median of 2 sorted arrays of different size](#)

[Largest number by joining numbers](#)

Bonus: [Reorganize string](#)

Bonus: [Maximum points you can obtain from cards](#)

Bonus: [Wiggle Sort](#)

Bonus: [Sort Colors](#)

Bonus: [Minimum swaps to make strings equal](#)

[Spiral traversal on a Matrix](#)

[Search an element in a matrix](#)

[Find median in a row wise sorted matrix](#)

[Find row with maximum no. of 1's \$O\(m+n\)\$ solution](#)

[Print elements in sorted order using row-column wise sorted matrix](#)

[Maximum size rectangle](#)

[Find a specific pair in matrix](#)

[Rotate matrix by 90 degrees](#)

[Kth smallest element in a row-column wise sorted matrix](#)

[Common elements in all rows of a given matrix](#)

[Reverse a String](#)

[Check whether a String is Palindrome or not](#)

[Find Duplicate characters in a string](#)

Why strings are immutable in Java?

Write a Code to check whether one string is a rotation of another

Write a Program to check whether a string is a valid shuffle of two strings or not

Count and Say problem

Write a program to find the longest Palindrome in a string.] Longest palindromic Substring]

Find Longest Recurring Subsequence in String

Print all Subsequences of a string.

Print all the permutations of the given string

Split the Binary string into two substring with equal 0's and 1's

Word Wrap Problem [VERY IMP]. (<https://www.youtube.com/watch?v=ENyox/KNKeY&t=1032s>)

EDIT Distance [Very Imp]

Find next greater number with same set of digits. [Very Very IMP]

Balanced Parenthesis problem.[Imp]

Word break Problem| Very Imp]

Rabin Karp Algo

KMP Algo

Convert a Sentence into its equivalent mobile numeric keypad sequence.

Minimum number of bracket reversals needed to make an expression balanced.

Count All Palindromic Subsequence in a given String.

Count of number of given string in 2D character array

Search a Word in a 2D Grid of characters. (similar enough to previous question)

Boyer Moore Algorithm for Pattern Searching.

Converting Roman Numerals to Decimal

Longest Common Prefix

Number of flips to make binary string alternate

Find the first repeated word in string.

Minimum number of swaps for bracket balancing.

Find the longest common subsequence between two strings.

Program to generate all possible valid IP addresses from given string.

Write a program to find the smallest window that contains all characters of string itself.

Rearrange characters in a string such that no two adjacent are same

Minimum characters to be added at front to make string palindrome

Given a sequence of words, print all anagrams together

Find the smallest window in a string containing all characters of another string
Recursively remove all adjacent duplicates
String matching where one string contains wildcard characters
Function to find Number of customers who could not get a computer
Transform One String to Another using Minimum Number of Given Operation
Check if two given strings are isomorphic to each other
Recursively print all sentences that can be formed from list of word lists

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

Aggressive cows

Book Allocation Problem

EKOSPOJ:

Job Scheduling Algo

Missing Number in AP

Smallest number with atleastn trailing zeroes infactorial

Painters Partition Problem:

ROI-Prata SPOJ

DoubleHelix SPOJ

Subset Sums

Findthe inversion count (Repeated, similar to Couples holding hands)

Implement Merge-sort in-place

Partitioning and Sorting Arrays with Many Repeated Entries

Bonus: Minimum speed to Arrive on time

Write a Program to reverse the Linked List. (Both Iterative and recursive)

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

Write a program to Detect loop in a linked list.

Write a program to Delete loop in a linked list.

Find the starting point of the loop.

Remove Duplicates in a sorted Linked List.

Remove Duplicates in a Un-sorted Linked List.

Write a Program to Move the last element to Front in a Linked List.

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

Add two numbers represented by linked lists.

Intersection of two Sorted Linked List.

Intersection Point of two Linked Lists.

Merge Sort For Linked lists.[Very Important]

Quicksort for Linked Lists.[Very Important]

Find the middle Element of a linked list.

Check if a linked list is a circular linked list.

Split a Circular linked list into two halves.

Write a Program to check whether the Singly Linked list is a palindrome or not.

Deletion from a Circular Linked List.

Reverse a Doubly Linked list.

Find pairs with a given sum in a DLL.

Count triplets in a sorted DLL whose sum is equal to given value "X".

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

Rotate DoublyLinked list by N nodes.

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

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

Why Quicksort is preferred for. Arrays and Merge Sort for LinkedLists ?

Flatten a Linked List

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

Clone a linked list with next and random pointer

Merge K sorted Linked list

Multiply 2 no. represented by LL

Delete nodes which have a greater value on right side

Segregate even and odd nodes in a Linked List

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

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

level order traversal

Reverse Level Order traversal

Height of a tree

Diameter of a tree

Mirror of a tree

Inorder Traversal of a tree both using recursion and Iteration

Preorder Traversal of a tree both using recursion and Iteration

Postorder Traversal of a tree both using recursion and Iteration

Left View of a tree

Right View of Tree

Top View of a tree

Bottom View of a tree

Zig-Zag traversal of a binary tree

Check if a tree is balanced or not

Diagonal Traversal of a Binary tree

Boundary traversal of a Binary tree

Construct Binary Tree from String with Bracket Representation

Convert Binary tree into Doubly Linked List

Convert Binary tree into Sum tree (and a Duplicate)

Construct Binary tree from Inorder and preorder traversal

Find minimum swaps required to convert a Binary tree into BSI

Check if Binary tree is Sum tree or not

Check if all leaf nodes are at same level or not

Check if a Binary Tree contains duplicate subtrees of size 2 or more | IMP |

Check if 2 trees are mirror or not

Sum of Nodes on the Longest path from root to leaf node

Check if given graph is tree or not. | IMP | (LeetCode Premium: [Here](#))

Find Largest subtree sum in a tree

Maximum Sum of nodes in Binary tree such that no two are adjacent

Print all "K" Sum paths in a Binary tree

Find LCA in a Binary tree

Find distance between 2 nodes in a Binary tree

Kth Ancestor of node in a Binary tree

Find all Duplicate subtrees in a Binary tree | IMP |

Tree Isomorphism Problem

Bonus: Number of nodes that are K distance apart

Find a value in a BSI

Deletion of a node in a BSI

Find min and max value in a BSI

Find inorder successor and inorder predecessor in a BSI (LeetCode Premium: [Here](#))

Check if a tree is a BST or not

Populate Inorder successor of all nodes

Find LCA of 2 nodes in a BSI
Construct BSI from preorder traversal
Convert Binary tree into BSI
Convert a normal BSI into a Balanced BSI
Merge two BSI | V.V.V>IMP |
Find Kth largest element in a BST
Find Kth smallest element in a BSI
Count pairs from 2 BSI whose sum is equal to given value "X"
Find the median of BSI in O(n) time and O(1) space
Count BSI ndoes that lie in a given range
Replace every element with the least greater element on its right
Given "n" appointments, find the conflicting appointments
Check preorder is valid or not
Check whether BSI contains Dead end
Largest BSI in a Binary Tree | V.V.V.V.V IMP |
Flatten BSI to sorted list
Bonus: Unique BSIs

Activity Selection Problem
Job Sequencing Problem
Huffman Coding
Water Connection Problem
Fractional Knapsack Problem
Greedy Algorithm to find Minimum number of Coins
Maximum trains for which stoppage can be provided
Minimum Platforms Problem
Buy Maximum Stocks if i stocks can be bought on i-th day
Find the minimum and maximum amount to buy all N candies
Minimize Cash Flow among a given set of friends who have borrowed money from each other
Minimum Cost to cut a board into squares
Check if it is possible to survive on Island
Find maximum meetings in one room

[Maximum product subset of an array](#)
[Maximize array sum after K negations](#)
[Maximize the sum of \$arr\[i\]^i\$](#)
[Maximum sum of absolute difference of an array](#)
[Maximize sum of consecutive differences in a circular array](#)
[Minimum sum of absolute difference of pairs of two arrays](#)
[Program for Shortest Job First \(or SJF\) CPU Scheduling](#)
[Program for Least Recently Used \(LRU\) Page Replacement algorithm](#)
[Smallest subset with sum greater than all other elements](#)
[Chocolate Distribution Problem](#)
[DEFKIN -Defense of a Kingdom](#)
[DIEHARD -DIE HARD](#)
[GERGOVIA -Wine trading in Gergovia](#)
[Picking Up Chicks](#)
[CHOCOLA –Chocolate](#)
[ARRANGE -Arranging Amplifiers](#)
[K Centers Problem](#)
[Minimum Cost of ropes](#)
[Find smallest number with given number of digits and sum of digits](#)
[Rearrange characters in a string such that no two adjacent are same](#)
[Find maximum sum possible equal sum of three stacks](#)

[Rat in a maze Problem](#)
[Printing all solutions in N-Queen Problem](#)
[Word Break Problem using Backtracking](#)
[Remove Invalid Parentheses](#)
[Sudoku Solver](#)
[m Coloring Problem](#)
[Print all palindromic partitions of a string](#)
[Subset Sum Problem](#)
[The Knight's tour problem](#)

Lug of War

Find shortest safe route in a path with landmines

Combinational Sum

Find Maximum number possible by doing at-most K swaps

Print all permutations of a string

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

Longest Possible Route in a Matrix with Hurdles

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

Partition of a set into K subsets with equal sum

Find the K-th Permutation Sequence of first N natural numbers

Implement Stack from Scratch

Implement Queue from Scratch

Implement 2 stack in an array

find the middle element of a stack

Implement "N" stacks in an Array

Check the expression has valid or Balanced parenthesis or not.

Reverse a String using Stack

Design a Stack that supports getMin() in O(1) time and O(1) extra space.

Find the next Greater element

The celebrity Problem

Arithmetic Expression evaluation

Evaluation of Postfix expression

Implement a method to insert an element at its bottom without using any other data structure.

Reverse a stack using recursion

Sort a Stack using recursion

Merge Overlapping Intervals

Largest rectangular Area in Histogram

Length of the Longest Valid Substring

Expression contains redundant bracket or not

Implement Stack using Queue

Implement Stack using Deque
Stack Permutations (Check if an array is stack permutation of other)
Implement Queue using Stack
Implement "n" queue in an array
Implement a Circular queue
LRU Cache Implementation
Reverse a Queue using recursion
Reverse the first "K" elements of a queue
Interleave the first half of the queue with second half
Find the first circular tour that visits all Petrol Pumps
Minimum time required to rot all oranges
Distance of nearest cell having 1 in a binary matrix
First negative integer in every window of size "k"
Check if all levels of two trees are anagrams or not.
Sum of minimum and maximum elements of all subarrays of size "k".
Minimum sum of squares of character counts in a given string after removing "k" characters.
Queue based approach or first non-repeating character in a stream.
Next Smaller Element

Implement a Maxheap/MinHeap using arrays and recursion.
Sort an Array using heap. (HeapSort)
Maximum of all subarrays of size k.
"k" largest element in an array
Kth smallest and largest element in an unsorted array
Merge "K" sorted arrays. | IMP |
Merge 2 Binary Max Heaps
Kth largest sum continuous subarrays
Leetcode- reorganize strings
Merge "K" Sorted Linked Lists |V.IMP|
Smallest range in "K" Lists
Median in a stream of Integers

Check if a Binary Tree is Heap
Connect "n" ropes with minimum cost
Convert B+ to Min Heap
Convert min heap to max heap
Rearrange characters in a string such that no two adjacent are same.
Minimum sum of two numbers formed from digits of an array

Create a Graph, print it
Implement BFS algorithm
Implement DFS Algo
Detect Cycle in Directed Graph using BFS/DFS Algo
Detect Cycle in UnDirected Graph using BFS/DFS Algo
Search in a Maze
Minimum Step by Knight
flood fill algo
Clone a graph
Making wired Connections
word Ladder
Dijkstra algo
Implement Topological Sort
Minimum time taken by each job to be completed given by a Directed Acyclic Graph
Find whether it is possible to finish all tasks or not from given dependencies
Find the no. of Islands
Given a sorted Dictionary of an Alien Language, find order of characters
Implement Kruksal's Algorithm
Implement Prim's Algorithm
Total no. of Spanning tree in a graph
Implement Bellman Ford Algorithm
Implement Floyd warshall Algorithm
Travelling Salesman Problem
Graph Colouring Problem

Snake and Ladders Problem

Find bridge in a graph

Count Strongly connected Components(Kosaraju Algo)

Check whether a graph is Bipartite or Not

Detect Negative cycle in a graph

Longest path in a Directed Acyclic Graph

Journey to the Moon

Cheapest Flights Within K Stops

Oliver and the Game

Water Jug problem using BFS

Water Jug problem using BFS

Find if there is a path of more than length from a source

M-Colouring Problem

Minimum edges to reverse to make path from source to destination

Paths to travel each node using each edge(Seven Bridges)

Vertex Cover Problem

Chinese Postman or Route Inspection

Number of Triangles in a Directed and Undirected Graph

Minimise the cashflow among a given set of friends who have borrowed money from each other

Two Clique Problem

Construct a trie from scratch

Find shortest unique prefix for every word in a given list

Word Break Problem | (Trie solution)

Given a sequence of words, print all anagrams together

Implement a Phone Directory

Print unique rows in a given boolean matrix

Coin Change Problem

Knapsack Problem

[Binomial Coefficient Problem](#)
[Permutation Coefficient Problem](#)
[Program for nth Catalan Number](#)
[Matrix Chain Multiplication](#)
[Edit Distance](#)
[Subset Sum Problem](#)
[Friends Pairing Problem](#)
[Gold Mine Problem](#)
[Assembly Line Scheduling Problem](#)
[Painting the Fence problem](#)
[Maximize The Cut Segments](#)
[Longest Common Subsequence](#)
[Longest Repeated Subsequence](#)
[Longest Increasing Subsequence](#)
[Space Optimized Solution of LCS](#)
[LCS \(Longest Common Subsequence\) of three strings](#)
[Maximum Sum Increasing Subsequence](#)
[Count all subsequences having product less than K](#)
[Longest subsequence such that difference between adjacent is one](#)
[Maximum subsequence sum such that no three are consecutive](#)
[Egg Dropping Problem](#)
[Maximum Length Chain of Pairs](#)
[Maximum size square sub-matrix with all 1s](#)
[Maximum sum of pairs with specific difference](#)
[Min Cost Path Problem](#)
[Maximum difference of zeros and ones in binary string](#)
[Minimum number of jumps to reach end](#)
[Minimum cost to fill given weight in a bag](#)
[Minimum removals from array to make \$\max - \min \leq K\$](#)
[Longest Common Substring](#)
[Count number of ways to reach a given score in a game](#)
[Count Balanced Binary Trees of Height h](#)

[LargestSum Contiguous Subarray |V>V>V>V IMP |](#)

[Smallest sum contiguous subarray](#)

[Unbounded Knapsack \(Repetition of items allowed\)](#)

[Word Break Problem](#)

[Largest Independent Set Problem](#)

[Partition problem](#)

[Longest Palindromic Subsequence](#)

[Count All Palindromic Subsequence in a given String](#)

[Longest Palindromic Substring](#)

[Longest alternating subsequence](#)

[Weighted Job Scheduling](#)

[Coin game winner where every player has three choices](#)

[Count Derangements \(Permutation such that no element appears in its original position\) | IMPOR](#)

[Maximum profit by buying and selling a share at most twice | IMP |](#)

[Optimal Strategy for a Game](#)

[Optimal Binary Search Tree](#)

[Palindrome PartitioningProblem](#)

[Word Wrap Problem](#)

[Mobile Numeric Keypad Problem | IMP |](#)

[Boolean Parenthesization Problem](#)

[Largest rectangular sub-matrix whose sum is 0](#)

[Largest area rectangular sub-matrix with equal number of 1's and 0's | IMP |](#)

[Maximum sum rectangle in a 2D matrix](#)

[Maximum profit by buying and selling a share at most k times](#)

[Find if a string is interleaved of two other strings](#)

[Maximum Length of Pair Chain](#)

Bonus: [Perfect Squares](#)

[Count set bits in an integer](#)

[Find the two non-repeating elements in an array of repeating elements](#)

[Count number of bits to be flipped to convert A to B \(original question's answer is to just xor and c](#)

[Count total set bits in all numbers from 1 to n](#)

Program to find whether a no is power of two

Find position of the only set bit

Copy set bits in a range

Divide two integers without using multiplication, division and mod operator

Calculate square of a number without using \times , / and pow()

Power Set

nus questions added that I like :)
e and mark them as you like.
ter answer.

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Searching & Sorting

LinkedList

Binary Trees

Binary Trees

Binary Search Trees

Binary Search Trees

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BackTracking

BackTracking

Stacks & Queues

Stacks & Queues

[illegible]

Heap

Graph

Dynamic Programming

Dynamic Programming

Bit Manipulation

Bit Manipulation

Questions by Love Babbar:

Youtube Channel: <https://www.youtube.com/channel/UCQHLxxBFrbfdrk1jF0moTpw>

Problem:

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 without using any sorting algo

Move all the negative elements to one side of the array

Find the Union and Intersection of the two sorted arrays.

Write a program to cyclically rotate an array by one.

find Largest sum contiguous Subarray |V. IMP|

Minimise the maximum difference between heights |V.IMP|

Minimum no. of Jumps to reach end of an array

find duplicate in an array of N+1 Integers

Merge 2 sorted arrays without using Extra space.

Kadane's Algo |V.V.V.V.V IMP|

Merge Intervals

Next Permutation

Count Inversion

Best time to buy and Sell stock

find all pairs on integer array whose sum is equal to given number

find common elements In 3 sorted arrays

Rearrange the array in alternating positive and negative items with $O(1)$ extra space

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, find all elements that appear more than " n/k " times.

Maximum profit by buying and selling a share atmost twice

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](#)
[Smallest Subarray with sum greater than a given value](#)
[Three way partitioning of an array around a given value](#)
[Minimum swaps required bring elements less equal K together](#)
[Minimum no. of operations required to make an array palindrome](#)
[Median of 2 sorted arrays of equal size](#)
[Median of 2 sorted arrays of different size](#)

[Spiral traversal on a Matrix](#)
[Search an element in a matrix](#)
[Find median in a row wise sorted matrix](#)
[Find row with maximum no. of 1's](#)
[Print elements in sorted order using row-column wise sorted matrix](#)
[Maximum size rectangle](#)
[Find a specific pair in matrix](#)
[Rotate matrix by 90 degrees](#)
[Kth smallest element in a row-column wise sorted matrix](#)
[Common elements in all rows of a given matrix](#)

[Reverse a String](#)
[Check whether a String is Palindrome or not](#)
[Find Duplicate characters in a string](#)
[Why strings are immutable in Java?](#)
[Write a Code to check whether one string is a rotation of another](#)
[Write a Program to check whether a string is a valid shuffle of two strings or not](#)
[Count and Say problem](#)
[Write a program to find the longest Palindrome in a string.\[Longest palindromic Substring\]](#)
[Find Longest Recurring Subsequence in String](#)

Print all Subsequences of a string.

Print all the permutations of the given string

Split the Binary string into two substring with equal 0's and 1's

Word Wrap Problem [VERY IMP].

EDIT Distance [Very Imp]

Find next greater number with same set of digits. [Very Very IMP]

Balanced Parenthesis problem.[Imp]

Word break Problem| Very Imp]

Rabin Karp Algo

KMP Algo

Convert a Sentence into its equivalent mobile numeric keypad sequence.

Minimum number of bracket reversals needed to make an expression balanced.

Count All Palindromic Subsequence in a given String.

Count of number of given string in 2D character array

Search a Word in a 2D Grid of characters.

Boyer Moore Algorithm for Pattern Searching.

Converting Roman Numerals to Decimal

Longest Common Prefix

Number of flips to make binary string alternate

Find the first repeated word in string.

Minimum number of swaps for bracket balancing.

Find the longest common subsequence between two strings.

Program to generate all possible valid IP addresses from given string.

Write a program to find the smallest window that contains all characters of string itself.

Rearrange characters in a string such that no two adjacent are same

Minimum characters to be added at front to make string palindrome

Given a sequence of words, print all anagrams together

Find the smallest window in a string containing all characters of another string

Recursively remove all adjacent duplicates

String matching where one string contains wildcard characters

Function to find Number of customers who could not get a computer

Transform One String to Another using Minimum Number of Given Operation

Check if two given strings are isomorphic to each other
Recursively print all sentences that can be formed from list of word lists

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

Smallest number with atleastn trailing zeroes infactorial

Painters Partition Problem: (wrong link, Actual link [here](#))

ROI-Prata SPOJ

DoubleHelix SPOJ

Subset Sums

Findthe inversion count

Implement Merge-sort in-place

Partitioning and Sorting Arrays with Many Repeated Entries

Write a Program to reverse the Linked List. (Both Iterative and recursive)

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

Write a program to Detect loop in a linked list.

Write a program to Delete loop in a linked list.

Find the starting point of the loop.

Remove Duplicates in a sorted Linked List.

Remove Duplicates in a Un-sorted Linked List.

Write a Program to Move the last element to Front in a Linked List.

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

Add two numbers represented by linked lists.

Intersection of two Sorted Linked List.

Intersection Point of two Linked Lists.

Merge Sort For Linked lists.[Very Important]

Quicksort for Linked Lists.[Very Important]

Find the middle Element of a linked list.

Check if a linked list is a circular linked list.

Split a Circular linked list into two halves.

Write a Program to check whether the Singly Linked list is a palindrome or not.

Deletion from a Circular Linked List.

Reverse a Doubly Linked list.

Find pairs with a given sum in a DLL.

Count triplets in a sorted DLL whose sum is equal to given value "X".

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

Rotate DoublyLinked list by N nodes.

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

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

Why Quicksort is preferred for. Arrays and Merge Sort for LinkedLists ?

Flatten a Linked List

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

Clone a linked list with next and random pointer

Merge K sorted Linked list

Multiply 2 no. represented by LL

Delete nodes which have a greater value on right side

Segregate even and odd nodes in a Linked List

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

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

level order traversal

Reverse Level Order traversal

Height of a tree

Diameter of a tree

Mirror of a tree

Inorder Traversal of a tree both using recursion and Iteration

Preorder Traversal of a tree both using recursion and Iteration

Postorder Traversal of a tree both using recursion and Iteration

Left View of a tree

Right View of Tree

Top View of a tree

Bottom View of a tree

Zig-Zag traversal of a binary tree

Check if a tree is balanced or not

Diagonal Traversal of a Binary tree

Boundary traversal of a Binary tree

Construct Binary Tree from String with Bracket Representation
Convert Binary tree into Doubly Linked List
Convert Binary tree into Sum tree
Construct Binary tree from Inorder and preorder traversal
Find minimum swaps required to convert a Binary tree into BSI
Check if Binary tree is Sum tree or not
Check if all leaf nodes are at same level or not
Check if a Binary Tree contains duplicate subtrees of size 2 or more | IMP |
Check if 2 trees are mirror or not
Sum of Nodes on the Longest path from root to leaf node
Check if given graph is tree or not. | IMP |
Find Largest subtree sum in a tree
Maximum Sum of nodes in Binary tree such that no two are adjacent
Print all "K" Sum paths in a Binary tree
Find LCA in a Binary tree
Find distance between 2 nodes in a Binary tree
Kth Ancestor of node in a Binary tree
Find all Duplicate subtrees in a Binary tree | IMP |
Tree Isomorphism Problem

Find a value in a BSI
Deletion of a node in a BSI
Find min and max value in a BSI
Find inorder successor and inorder predecessor in a BSI
Check if a tree is a BSI or not
Populate Inorder successor of all nodes
Find LCA of 2 nodes in a BSI
Construct BSI from preorder traversal
Convert Binary tree into BSI
Convert a normal BST into a Balanced BST
Merge two BSI | V.V.V>IMP |

Find Kth largest element in a BSI
Find Kth smallest element in a BSI
Count pairs from 2 BSI whose sum is equal to given value "X"
Find the median of BSI in O(n) time and O(1) space
Count BSI ndoes that lie in a given range
Replace every element with the least greater element on its right
Given "n" appointments, find the conflicting appointments
Check preorder is valid or not
Check whether BSI contains Dead end
Largest BSI in a Binary Tree | V.V.V.V.V IMP |
Flatten BSI to sorted list

Activity Selection Problem
Job Sequencing Problem
Huffman Coding
Water Connection Problem
Fractional Knapsack Problem
Greedy Algorithm to find Minimum number of Coins
Maximum trains for which stoppage can be provided
Minimum Platforms Problem
Buy Maximum Stocks if i stocks can be bought on i-th day
Find the minimum and maximum amount to buy all N candies
Minimize Cash Flow among a given set of friends who have borrowed money from each other
Minimum Cost to cut a board into squares
Check if it is possible to survive on Island
Find maximum meetings in one room
Maximum product subset of an array
Maximize array sum after K negations
Maximize the sum of arr[i]*i
Maximum sum of absolute difference of an array
Maximize sum of consecutive differences in a circular array

Minimum sum of absolute difference of pairs of two arrays
Program for Shortest Job First (or SJF) CPU Scheduling
Program for Least Recently Used (LRU) Page Replacement algorithm
Smallest subset with sum greater than all other elements
Chocolate Distribution Problem
DEFKIN -Defense of a Kingdom
DIEHARD -DIE HARD
GERGOVIA -Wine trading in Gergovia
Picking Up Chicks
CHOCOLA –Chocolate
ARRANGE -Arranging Amplifiers
K Centers Problem
Minimum Cost of ropes
Find smallest number with given number of digits and sum of digits
Rearrange characters in a string such that no two adjacent are same
Find maximum sum possible equal sum of three stacks

Rat in a maze Problem
Printing all solutions in N-Queen Problem
Word Break Problem using Backtracking
Remove Invalid Parentheses
Sudoku Solver
m Coloring Problem
Print all palindromic partitions of a string
Subset Sum Problem
The Knight's tour problem
Lug of War
Find shortest safe route in a path with landmines
Combinational Sum
Find Maximum number possible by doing at-most K swaps
Print all permutations of a string

Find if there is a path of more than k length from a source
Longest Possible Route in a Matrix with Hurdles
Print all possible paths from top left to bottom right of a mXn matrix
Partition of a set into K subsets with equal sum
Find the K-th Permutation Sequence of first N natural numbers

Implement Stack from Scratch
Implement Queue from Scratch
Implement 2 stack in an array
find the middle element of a stack
Implement "N" stacks in an Array
Check the expression has valid or Balanced parenthesis or not.
Reverse a String using Stack
Design a Stack that supports getMin() in O(1) time and O(1) extra space.
Find the next Greater element
The celebrity Problem
Arithmetic Expression evaluation
Evaluation of Postfix expression
Implement a method to insert an element at its bottom without using any other data structure.
Reverse a stack using recursion
Sort a Stack using recursion
Merge Overlapping Intervals
Largest rectangular Area in Histogram
Length of the Longest Valid Substring
Expression contains redundant bracket or not
Implement Stack using Queue
Implement Stack using Deque
Stack Permutations (Check if an array is stack permutation of other)
Implement Queue using Stack
Implement "n" queue in an array
Implement a Circular queue

LRU Cache Implementationa

Reverse a Queue using recursion

Reverse the first "K" elements of a queue

Interleave the first half of the queue with second half

Find the first circular tour that visits all Petrol Pumps

Minimum time required to rot all oranges

Distance of nearest cell having 1 in a binary matrix

First negative integer in every window of size "k"

Check if all levels of two trees are anagrams or not.

Sum of minimum and maximum elements of all subarrays of size "k".

Minimum sum of squares of character counts in a given string after removing "k" characters.

Queue based approach or first non-repeating character in a stream.

Next Smaller Element

Implement a Maxheap/MinHeap using arrays and recursion.

Sort an Array using heap. (HeapSort)

Maximum of all subarrays of size k.

"k" largest element in an array

Kth smallest and largest element in an unsorted array

Merge "K" sorted arrays. | IMP |

Merge 2 Binary Max Heaps

Kth largest sum continuous subarrays

Leetcode- reorganize strings

Merge "K" Sorted Linked Lists |V.IMP|

Smallest range in "K" Lists

Median in a stream of Integers

Check if a Binary Tree is Heap

Connect "n" ropes with minimum cost

Convert BSI to Min Heap

Convert min heap to max heap

Rearrange characters in a string such that no two adjacent are same.

Minimum sum of two numbers formed from digits of an array

Create a Graph, print it

Implement BFS algorithm

Implement DFS Algo

Detect Cycle in Directed Graph using BFS/DFS Algo

Detect Cycle in UnDirected Graph using BFS/DFS Algo

Search in a Maze

Minimum Step by Knight

flood fill algo

Clone a graph

Making wired Connections

word Ladder

Dijkstra algo

Implement Topological Sort

Minimum time taken by each job to be completed given by a Directed Acyclic Graph

Find whether it is possible to finish all tasks or not from given dependencies

Find the no. of Islands

Given a sorted Dictionary of an Alien Language, find order of characters

Implement Kruksal's Algorithm

Implement Prim's Algorithm

Total no. of Spanning tree in a graph

Implement Bellman Ford Algorithm

Implement Floyd warshall Algorithm

Travelling Salesman Problem

Graph Colouring Problem

Snake and Ladders Problem

Find bridge in a graph

Count Strongly connected Components(Kosaraju Algo)

Check whether a graph is Bipartite or Not

Detect Negative cycle in a graph

Longest path in a Directed Acyclic Graph

Journey to the Moon

Cheapest Flights Within K Stops

Oliver and the Game

Water Jug problem using BFS

Water Jug problem using BFS

Find if there is a path of more than length from a source

M-Colouring Problem

Minimum edges to reverse to make path from source to destination

Paths to travel each node using each edge (Seven Bridges)

Vertex Cover Problem

Chinese Postman or Route Inspection

Number of Triangles in a Directed and Undirected Graph

Minimise the cashflow among a given set of friends who have borrowed money from each other

Two Clique Problem

Construct a trie from scratch

Find shortest unique prefix for every word in a given list

Word Break Problem | (Trie solution)

Given a sequence of words, print all anagrams together

Implement a Phone Directory

Print unique rows in a given boolean matrix

Coin Change Problem

Knapsack Problem

Binomial Coefficient Problem

Permutation Coefficient Problem

Program for nth Catalan Number

Matrix Chain Multiplication

Edit Distance

Subset Sum Problem
Friends Pairing Problem
Gold Mine Problem
Assembly Line Scheduling Problem
Painting the Fence problem
Maximize The Cut Segments
Longest Common Subsequence
Longest Repeated Subsequence
Longest Increasing Subsequence
Space Optimized Solution of LCS
LCS (Longest Common Subsequence) of three strings
Maximum Sum Increasing Subsequence
Count all subsequences having product less than K
Longest subsequence such that difference between adjacent is one
Maximum subsequence sum such that no three are consecutive
Egg Dropping Problem
Maximum Length Chain of Pairs
Maximum size square sub-matrix with all 1s
Maximum sum of pairs with specific difference
Min Cost Path Problem
Maximum difference of zeros and ones in binary string
Minimum number of jumps to reach end
Minimum cost to fill given weight in a bag
Minimum removals from array to make $\max - \min \leq K$
Longest Common Substring
Count number of ways to reach a given score in a game
Count Balanced Binary Trees of Height h
Largest Sum Contiguous Subarray | $V > V > V > V$ IMP |
Smallest sum contiguous subarray
Unbounded Knapsack (Repetition of items allowed)
Word Break Problem
Largest Independent Set Problem

Partition problem

Longest Palindromic Subsequence

Count All Palindromic Subsequence in a given String

Longest Palindromic Substring

Longest alternating subsequence

Weighted Job Scheduling

Coin game winner where every player has three choices

Count Derangements (Permutation such that no element appears in its original position) | IMPOR

Maximum profit by buying and selling a share at most twice | IMP |

Optimal Strategy for a Game

Optimal Binary Search Tree

Palindrome Partitioning Problem

Word Wrap Problem

Mobile Numeric Keypad Problem | IMP |

Boolean Parenthesization Problem

Largest rectangular sub-matrix whose sum is 0

Largest area rectangular sub-matrix with equal number of 1's and 0's | IMP |

Maximum sum rectangle in a 2D matrix

Maximum profit by buying and selling a share at most k times

Find if a string is interleaved of two other strings

Maximum Length of Pair Chain

Count set bits in an integer

Find the two non-repeating elements in an array of repeating elements

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

Count total set bits in all numbers from 1 to n

Program to find whether a no is power of two

Find position of the only set bit

Copy set bits in a range

Divide two integers without using multiplication, division and mod operator

Calculate square of a number without using * , / and pow()

Power Set

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