

Data Structure and Algorithm Problems - Techie Delight

Array

Find pair with given sum in the array

Check if subarray with 0 sum is exists or not

Print all sub-arrays with 0 sum

Sort binary array in linear time

Find a duplicate element in a limited range array

Find largest sub-array formed by consecutive integers

Find maximum length sub-array having given sum

Find maximum length sub-array having equal number of 0's and 1's

Sort an array containing 0's, 1's and 2's (Dutch national flag problem)

Inplace merge two sorted arrays

Merge two arrays by satisfying given constraints

Find index of 0 to replace to get maximum length sequence of continuous ones

Find maximum product of two integers in an array

Shuffle a given array of elements (Fisher–Yates shuffle)

Rearrange the array with alternate high and low elements

Find equilibrium index of an array

Find majority element in an array (Boyer–Moore majority vote algorithm)

Move all zeros present in the array to the end

Replace each element of array with product of every other element without using / operator

Find Longest Bitonic Subarray in an array

Find maximum difference between two elements in the array by satisfying given constraints

Maximum subarray problem (Kadane's algorithm)

Print continuous subarray with maximum sum

Maximum Sum Circular Subarray

Find all distinct combinations of given length

Find all distinct combinations of given length with repetition allowed

Find maximum sequence of continuous 1's formed by replacing at-most k zeroes by ones

Find minimum sum subarray of given size k

Find subarray having given sum in given array of integers

Find the length of smallest subarray whose sum of elements is greater than the given number

Find largest number possible from set of given numbers

Find the smallest window in array sorting which will make the entire array sorted

Find maximum sum path involving elements of given arrays

Maximum profit earned by buying and selling shares any number of times

Trapping Rain Water within given set of bars

Longest Increasing Subsequence
Longest Decreasing Subsequence Problem
Find maximum product subarray in a given array
Find maximum sum of subsequence with no adjacent elements
Find minimum platforms needed in the station so to avoid any delay in arrival of any train
Decode the array constructed from another array
Sort an array using one swap
Find Triplet with given sum in an array
Length of longest continuous sequence with same sum in given binary arrays
Rearrange array such that $A[A[i]]$ is set to i for every element $A[i]$
Reverse every consecutive m elements of the given subarray
Maximum Product Subset Problem
Find pairs with given difference k in the array
Find pairs with given difference k in the array | Constant space solution
4 sum problem | Quadruplets with given sum
Print all quadruplets with given sum | 4-sum problem extended
Find odd occurring element in an array in single traversal
Find two odd occurring element in an array without using any extra space
Quickselect Algorithm
Print all Triplets that forms Arithmetic Progression
Print all triplets that forms Geometric Progression
Print all combination of numbers from 1 to n having sum n
Replace each element of the array by its corresponding rank in the array
Print all Triplets in an array with sum less than or equal to given number
Group elements of an array based on their first occurrence
Find minimum difference between index of two given elements present in the array
Find maximum absolute difference between sum of two non-overlapping sub-arrays
Find all Symmetric Pairs in an Array of Pairs
Partition an array into two sub-arrays with the same sum
Find count of distinct elements in every sub-array of size k
Find two numbers with maximum sum formed by array digits
Print all sub-arrays of an array having distinct elements
Find a Triplet having Maximum Product in an Array
Find ways to calculate a target from elements of specified array
Find Minimum Index of Repeating Element in an Array
Generate Random Input from an Array according to given Probabilities
Find pair in an array having minimum absolute sum
Find Index of Maximum Occurring Element with Equal Probability
Check if an Array is Formed by Consecutive Integers
Find two non-overlapping pairs having same sum in an array

Find Minimum Product among all Combinations of Triplets in an Array
Replace every element of an array with the least greater element on its right
Find all odd occurring elements in an array having limited range of elements
Add elements of two arrays into a new array
Count the distinct absolute values in the sorted array
Print all combinations of positive integers in increasing order that sum to a given number
Find all distinct combinations of given length - Part 2
Find subarrays with given sum in an array
Find the surpasser count for each element of an array
Find maximum length sequence of continuous ones (Using Sliding Window)
Find maximum length sequence of continuous ones
Calculate frequency of all elements present in an array of specified range in linear time and using constant space
Rearrange the array such that it contains positive and negative numbers at alternate positions

Merging Overlapping Intervals

Activity Selection Problem

Job Sequencing Problem with Deadlines

Introduction to Priority Queues using Binary Heaps

Min Heap and Max Heap Implementation in C++

Min Heap and Max Heap Implementation in Java

Heap Sort (Out-of-place and In-place implementation in C++ and C)

Check if given array represents min heap or not

Convert Max Heap to Min Heap in linear time

Find K'th largest element in an array

Sort a K-Sorted Array

Merge M sorted lists of variable length

Find K'th smallest element in an array

Find smallest range with at-least one element from each of the given lists

Merge M sorted lists each containing N elements

Insertion sort | Iterative & Recursive

Selection sort | Iterative & Recursive

Bubble sort | Iterative & Recursive

Merge Sort

Quicksort

Iterative Implementation of Quicksort

Hybrid QuickSort

Quicksort using Dutch National Flag Algorithm

Quick Sort using Hoare's Partitioning scheme

External merge sort

Custom Sort | Sort elements by their frequency and Index
Custom Sort | Sort elements of the array by order of elements defined by the second array
Inversion Count of an array
Segregate positive and negative integers in linear time
Binary Search
Ternary Search vs Binary search
Interpolation search
Exponential search
Find number of rotations in a circularly sorted array
Search an element in a circular sorted array
Find first or last occurrence of a given number in a sorted array
Count occurrences of a number in a sorted array with duplicates
Find smallest missing element from a sorted array
Find Floor and Ceil of a number in a sorted array
Search in a nearly sorted array in $O(\log n)$ time
Find number of 1's in a sorted binary array
Find the peak element in an array
Maximum Sum Subarray using Divide & Conquer
Find Minimum and Maximum element in an array using minimum comparisons
Matrix Chain Multiplication
0-1 Knapsack problem
Maximize value of the expression
Partition problem
Subset sum problem
Minimum Sum Partition problem
Rod Cutting
Coin change-making problem (unlimited supply of coins)
Coin Change Problem (Total number of ways to get the denomination of coins)
Longest alternating subsequence
Combinations of words formed by replacing given numbers with corresponding alphabets
Decode the given sequence to construct minimum number without repeated digits
All combinations of elements satisfying given constraints
Find Missing Term in a Sequence in $\log(n)$ time
Print all distinct Subsets of a given Set
Find Floor and Ceil of a number in a sorted array (Recursive solution)
Set both elements of a binary array to 0 in single line
K-Partition Problem | Printing all Partitions
3 Partition Problem
3-partition problem extended | Print all partitions
Iterative Merge Sort Algorithm (Bottom-up Merge Sort)

Find two duplicate elements in an limited range array (using XOR)
Find missing number and duplicate elements in an array
Find Minimum and Maximum element in an array by doing minimum comparisons
Find Frequency of each element in a sorted array containing duplicates
Difference between Subarray, Subsequence and Subset

Backtracking

Print all possible solutions to N Queens problem
Print all Possible Knight's Tours in a chessboard
Find Shortest Path in Maze
Find Longest Possible Route in a Matrix
Find path from source to destination in a matrix that satisfies given constraints
Find total number of unique paths in a maze from source to destination
Print All Hamiltonian Path present in a graph
Print all k-colorable configurations of the graph (Vertex coloring of graph)
Find all Permutations of a given string
All combinations of elements satisfying given constraints
Find all binary strings that can be formed from given wildcard pattern
K-Partition Problem | Printing all Partitions
Magnet Puzzle
Find ways to calculate a target from elements of specified array
Find minimum number possible by doing at-most K swaps
Determine if a pattern matches with a string or not

Bit Manipulation

Bit Hacks – Part 1 (Basic)
Bit Hacks – Part 2 (Playing with k'th bit)
Bit Hacks – Part 3 (Playing with rightmost set bit of a number)
Bit Hacks – Part 4 (Playing with letters of English alphabet)
Bit Hacks – Part 5 (Find absolute value of an integer without branching)
Bit Hacks – Part 6 (Random Problems)
Brian Kernighan's Algorithm to count set bits in an integer
Compute parity of a number using lookup table
Count set bits using lookup table
Find the minimum or maximum of two integers without using branching
Multiply 16-bit integers using 8-bit multiplier
Round up to the next highest power of 2

Round up to the previous power of 2
Swap individual bits at given position in an integer
Check if given number is power of 4 or not
Reverse Bits of a given Integer
Find odd occurring element in an array in single traversal
Find two odd occurring element in an array without using any extra space
Swap two bits at given position in an integer
Add binary representation of two integers
Swap Adjacent Bits of a Number
Print all distinct Subsets of a given Set
Perform Division of two numbers without using division operator (/)
Check if adjacent bits are set in binary representation of a given number
Conditionally negate a value without branching
Find two duplicate elements in a limited range array (using XOR)
Find missing number and duplicate elements in an array
Check if given number is power of 8 or not
Circular shift on binary representation of an integer by k positions
Solve given set of problems without using multiplication or division operators
Reverse Bits of an integer using lookup table

Generate binary numbers between 1 to N
Efficiently implement power function | Recursive and Iterative
Find square of a number without using multiplication and division operator | 3 methods
Generate power set of a given set
Huffman Coding
Find all odd occurring elements in an array having limited range of elements

Binary Tree

Check if two given binary trees are identical or not | Iterative & Recursive
Calculate height of a binary tree | Iterative & Recursive
Delete given Binary Tree | Iterative & Recursive
Inorder Tree Traversal | Iterative & Recursive
Preorder Tree Traversal | Iterative & Recursive
Postorder Tree Traversal | Iterative & Recursive
Level Order Traversal of Binary Tree
Spiral Order Traversal of Binary Tree
Reverse Level Order Traversal of Binary Tree
Print all nodes of a given binary tree in specific order
Print left view of binary tree

Print Bottom View of Binary Tree
Print Top View of Binary Tree
Find next node in same level for given node in a binary tree
Check if given binary tree is complete binary tree or not
Determine if given two nodes are cousins of each other
Print cousins of given node in a binary tree
In-place convert given binary tree to its sum tree
Check if given binary tree is a sum tree or not
Combinations of words formed by replacing given numbers with corresponding alphabets
Determine if given binary tree is a subtree of another binary tree or not
Find diameter of a binary tree
Check if given binary Tree has symmetric structure or not
Convert binary tree to its mirror
Check if binary tree can be converted to another by doing any no. of swaps of left & right child
Find Lowest Common Ancestor (LCA) of two nodes in a binary tree
Print all paths from root to leaf nodes in given binary tree
Find ancestors of given node in a Binary Tree
Find the distance between given pairs of nodes in a binary tree
Find Vertical Sum in a given Binary Tree
Print nodes in vertical order of a given Binary Tree (Vertical Traversal)
Find the diagonal sum of given binary tree
Print Diagonal Traversal of Binary Tree
Print corner nodes of every level in binary tree
In-place convert given Binary Tree to Doubly Linked List
Sink nodes containing zero to the bottom of the binary tree
Convert given binary tree to full tree by removing half nodes
Truncate given binary tree to remove nodes which lie on a path having sum less than K
Find maximum sum root-to-leaf path in a binary tree
Check if given binary tree is height balanced or not
Convert normal binary tree to Left-child right-sibling binary tree
Determine if given Binary Tree is a BST or not
Convert a Binary Tree to BST by maintaining its original structure
Invert given Binary Tree | Recursive and Iterative solution
Print Right View of a Binary Tree
Print leaf to root path for every leaf node in a binary tree
Find maximum width of given binary tree
Build Binary Tree from given Parent array
C++ Program to Print Binary Tree Structure
Find all nodes at given distance from leaf nodes in a binary tree
Count all subtrees having same value of nodes in a binary tree

Find Maximum Difference Between a Node and its Descendants in a Binary Tree
Construct a Binary Tree from Ancestor Matrix
Calculate height of a binary tree with leaf nodes forming a circular doubly linked list
Find maximum sum path between two leaves in a binary tree
Fix a binary tree that is only one swap away from becoming a BST

Binary Search Tree (BST)

Insertion in BST
Search given key in BST
Deletion from BST
Construct balanced BST from given keys
Determine if given Binary Tree is a BST or not
Check if given keys represents same BSTs or not without building the BST
Find inorder predecessor for given key in a BST
Find Lowest Common Ancestor (LCA) of two nodes in a Binary Search Tree
Find K'th smallest and K'th largest element in BST
Floor and Ceil in a Binary Search Tree
Find optimal cost to construct binary search tree
Convert a Binary Tree to BST by maintaining its original structure
Remove nodes from BST that have keys outside the valid range
Find a pair with given sum in a BST
Find inorder successor for given key in a BST
Replace every element of an array with the least greater element on its right
Fix a binary tree that is only one swap away from becoming a BST
Update every key in BST to contain sum of all greater keys

Divide & Conquer

Binary Search
Find number of rotations in a circularly sorted array
Search an element in a circular sorted array
Find first or last occurrence of a given number in a sorted array
Count occurrences of a number in a sorted array with duplicates
Find smallest missing element from a sorted array
Find Floor and Ceil of a number in a sorted array
Search in a nearly sorted array in $O(\log n)$ time
Find number of 1's in a sorted binary array
Find the peak element in an array

Maximum Sum Subarray using Divide & Conquer
Find Minimum and Maximum element in an array using minimum comparisons
Efficiently implement power function | Recursive and Iterative
Find Missing Term in a Sequence in $\log(n)$ time
Division of Two Numbers using Binary Search Algorithm
Find Floor and Ceil of a number in a sorted array (Recursive solution)
Find Minimum and Maximum element in an array by doing minimum comparisons
Find Frequency of each element in a sorted array containing duplicates
Ternary Search vs Binary search
Exponential search
Interpolation search

Merge Sort Algorithm
Iterative Merge Sort Algorithm (Bottom-up Merge Sort)
Merge Sort Algorithm for Singly Linked List
Inversion Count of an array
Quicksort Algorithm
Iterative Implementation of Quicksort
Hybrid QuickSort
Quicksort using Dutch National Flag Algorithm
Quick Sort using Hoare's Partitioning scheme

Dynamic Programming

Introduction to Dynamic Programming
Longest Common Subsequence | Introduction & LCS Length
Longest Common Subsequence | Space optimized version
Longest Common Subsequence of K-sequences
Longest Common Subsequence | Finding all LCS
Longest Common Substring problem
Longest Palindromic Subsequence using Dynamic Programming
Longest Repeated Subsequence problem
Implement Diff Utility
Shortest Common Supersequence | Introduction & SCS Length
Shortest Common Supersequence | Finding all SCS
Shortest Common Supersequence | Using LCS
Longest Increasing Subsequence using Dynamic Programming
Longest Bitonic Subsequence
Increasing Subsequence with Maximum Sum
The Levenshtein distance (Edit distance) problem

Find size of largest square sub-matrix of 1's present in given binary matrix

Matrix Chain Multiplication

Find the minimum cost to reach last cell of the matrix from its first cell

Find longest sequence formed by adjacent numbers in the matrix

Count number of paths in a matrix with given cost to reach destination cell

0-1 Knapsack problem

Maximize value of the expression

Partition problem

Subset sum problem

Minimum Sum Partition problem

Find all N-digit binary strings without any consecutive 1's

Rod Cutting

Maximum Product Rod Cutting

Coin change-making problem (unlimited supply of coins)

Coin Change Problem – Find total number of ways to get the denomination of coins

Total possible solutions to linear equation of k variables

Longest alternating subsequence

Count number of times a pattern appears in given string as a subsequence

Collect maximum points in a matrix by satisfying given constraints

Count total possible combinations of N-digit numbers in a mobile keypad

Find optimal cost to construct binary search tree

Word Break Problem

Word Break Problem | Using Trie Data Structure

Determine Minimal Adjustment Cost of an Array

Check if a string is K-Palindrome or not

Find total ways to achieve given sum with n throws of dice having k faces

Wildcard Pattern Matching

Find probability that a person is alive after taking N steps on the island

Calculate sum of all elements in a sub-matrix in constant time

Find maximum sum K x K sub-matrix in a given M x N matrix

Find maximum sum submatrix present in a given matrix

Find maximum sum of subsequence with no adjacent elements

Maximum subarray problem (Kadane's algorithm)

Single-Source Shortest Paths – Bellman Ford Algorithm

All-Pairs Shortest Paths – Floyd Warshall Algorithm

Longest Decreasing Subsequence Problem

Pots of Gold Game using Dynamic Programming

Find minimum cuts needed for palindromic partition of a string

Maximum Length Snake Sequence

3 Partition Problem

Calculate size of the largest plus of 1's in binary matrix

Check if given string is interleaving of two other given strings

Longest Increasing Subsequence using LCS

Determine negative-weight cycle in a graph

Graphs

Terminology and Representations of Graphs

Graph Implementation using STL

Graph Implementation in C++ without using STL

Graph Implementation in C

Graph Implementation in Java using Collections

Breadth First Search (BFS) | Iterative & Recursive Implementation

Depth First Search (DFS) | Iterative & Recursive Implementation

Arrival and Departure Time of Vertices in DFS

Types of edges involved in DFS and relation between them

Bipartite Graph

Determine if a given graph is Bipartite Graph using DFS

Minimum number of throws required to win Snake and Ladder game

Topological Sorting in a DAG

Kahn's Topological Sort Algorithm

Transitive Closure of a Graph

Check if an undirected graph contains cycle or not

Total paths in given digraph from given source to destination having exactly m edges

Determine if an undirected graph is a Tree (Acyclic Connected Graph)

2-Edge Connectivity in the graph

2-Vertex Connectivity in the graph

Check if given digraph is a DAG (Directed Acyclic Graph) or not

Disjoint-Set Data Structure (Union-Find Algorithm)

Chess Knight Problem – Find Shortest path from source to destination

Check if given Graph is Strongly Connected or not

Check if given Graph is Strongly Connected or not using one DFS Traversal

Union-Find Algorithm for Cycle Detection in undirected graph

Kruskal's Algorithm for finding Minimum Spanning Tree

Single-Source Shortest Paths – Dijkstra's Algorithm

Single-Source Shortest Paths – Bellman Ford Algorithm

All-Pairs Shortest Paths – Floyd Warshall Algorithm

Find Cost of Shortest Path in DAG using one pass of Bellman-Ford

Least Cost Path in Weighted Digraph using BFS

Find maximum cost path in graph from given source to destination

Determine negative-weight cycle in a graph

Least cost path in given digraph from given source to destination having exactly m edges

Print all k-colorable configurations of the graph (Vertex coloring of graph)

Print All Hamiltonian Path present in a graph

Greedy coloring of graph

Heap

Introduction to Priority Queues using Binary Heaps

Min Heap and Max Heap Implementation in C++

Min Heap and Max Heap Implementation in Java

Heap Sort Algorithm

Check if given array represents min heap or not

Convert Max Heap to Min Heap in linear time

Find K'th largest element in an array

Sort a K-Sorted Array

Merge M sorted lists of variable length

Find K'th smallest element in an array

Find smallest range with at-least one element from each of the given lists

Merge M sorted lists each containing N elements

External merge sort

Huffman Coding

Find first k maximum occurring words in given set of strings

Find first k non-repeating characters in a string in single traversal

Linked List

Introduction to Linked Lists

Linked List Implementation | Part 1

Linked List Implementation | Part 2

Static Linked List in C

Clone given Linked List

Delete Linked List

Pop operation in linked list

Insert given node into the correct sorted position in the given sorted linked list

Given a linked list, change it to be in sorted order
Split the nodes of the given linked list into front and back halves
Remove duplicates from a sorted linked list
Move front node of the given list to the front of the another list
Move even nodes to the end of the list in reverse order
Split given linked list into two lists where each list containing alternating elements from it
Construct a linked list by merging alternate nodes of two given lists
Merge given sorted linked lists into one
Merge Sort Algorithm for Singly Linked List
Intersection of two given sorted linked lists
Reverse linked list | Part 1 (Iterative Solution)
Reverse linked list | Part 2 (Recursive Solution)
Reverse every group of k nodes in given linked list
Find K'th node from the end in a linked list
Merge alternate nodes of two linked lists into the first list
Merge two sorted linked lists from their end
Delete every N nodes in a linked list after skipping M nodes
Rearrange linked list in specific manner in linear time
Check if linked list is palindrome or not
Move last node to front in a given Linked List
Rearrange the linked list in specific manner
Detect Cycle in a linked list (Floyd's Cycle Detection Algorithm)
Sort linked list containing 0's, 1's and 2's
Stack Implementation using Linked List
Queue Implementation using Linked List
Remove duplicates from a linked list
Rearrange the linked list so that it has alternating high, low values
Rearrange a Linked List by Separating Odd Nodes from the Even Ones
Calculate height of a binary tree with leaf nodes forming a circular doubly linked list
XOR Linked List: Overview and Implementation
Convert a multilevel linked list to a singly linked list

Matrix

Print Matrix in Spiral Order
Create Spiral Matrix from given array
Shift all matrix elements by 1 in Spiral Order
Find Shortest path from source to destination in a matrix that satisfies given constraints
Change all elements of row i and column j in a matrix to 0 if cell (i, j) has value 0

Print diagonal elements of the matrix having positive slope
Find all paths from first cell to last cell of a matrix
Replace all occurrences of 0 that are not surrounded by 1 in a binary matrix
In-place rotate the matrix by 90 degrees in clock-wise direction
Count negative elements present in sorted matrix in linear time
Report all occurrences of an element in row wise and column wise sorted matrix in linear time
Calculate sum of all elements in a sub-matrix in constant time
Find maximum sum K x K sub-matrix in a given M x N matrix
Find maximum sum submatrix present in a given matrix
Find probability that a person is alive after taking N steps on the island
Count the number of islands
Flood fill Algorithm
Find shortest safe route in a field with sensors present
Find all occurrences of given string in a character matrix
Shortest path in a Maze | Lee algorithm
Check if given matrix is Toeplitz matrix or not
In-place rotate the matrix by 180 degrees
Fill Binary Matrix with Alternating Rectangles of 0 and 1
Find all common elements present in every row of given matrix
Construct a Binary Tree from Ancestor Matrix
Find common elements present in all rows of a matrix
Find index of the row containing maximum number of 1's in a binary matrix

Travelling Salesman Problem using Branch and Bound
Collect maximum points in a matrix by satisfying given constraints
Count number of paths in a matrix with given cost to reach destination cell
Find longest sequence formed by adjacent numbers in the matrix
Find the minimum cost to reach last cell of the matrix from its first cell
Matrix Chain Multiplication
Find size of largest square sub-matrix of 1's present in given binary matrix
Chess Knight Problem – Find Shortest path from source to destination
Find Duplicate rows in a binary matrix
Print all possible solutions to N Queens problem
Print all Possible Knight's Tours in a chessboard
Find Shortest Path in Maze
Find Longest Possible Route in a Matrix
Calculate size of the largest plus of 1's in binary matrix
Find the maximum value of $M[c][d] - M[a][b]$ over all choices of indexes
Find shortest distance of every cell from landmine in a Maze
Find shortest route in a device to construct the given string

Queue

Queue Implementation

Queue Implementation using Linked List

Chess Knight Problem – Find Shortest path from source to destination

Shortest path in a Maze | Lee algorithm

Find shortest safe route in a field with sensors present

Flood fill Algorithm

Count the number of islands

Find Shortest path from source to destination in a matrix that satisfies given constraints

Generate binary numbers between 1 to N

Calculate height of a binary tree | Iterative & Recursive

Delete given Binary Tree | Iterative & Recursive

Level Order Traversal of Binary Tree

Spiral Order Traversal of Binary Tree

Reverse Level Order Traversal of Binary Tree

Print all nodes of a given binary tree in specific order

Print left view of binary tree

Find next node in same level for given node in a binary tree

Check if given binary tree is complete binary tree or not

Print Diagonal Traversal of Binary Tree

Print corner nodes of every level in binary tree

Invert given Binary Tree | Recursive and Iterative solution

Minimum number of throws required to win Snake and Ladder game

Find shortest distance of every cell from landmine in a Maze

Convert a multilevel linked list to a singly linked list

Breadth First Search (BFS) | Iterative & Recursive Implementation

Check if an undirected graph contains cycle or not

Find maximum cost path in graph from given source to destination

Find maximum cost path in graph from given source to destination

Total number of paths in given digraph from given source to destination having exactly m edges

Least cost path in given digraph from given source to destination having exactly m edges

Sorting

Insertion sort | Iterative & Recursive

Selection sort | Iterative & Recursive

Bubble sort | Iterative & Recursive

Merge Sort Algorithm

Iterative Merge Sort Algorithm (Bottom-up Merge Sort)

Quicksort Algorithm

Iterative Implementation of Quicksort

Hybrid QuickSort

Quicksort using Dutch National Flag Algorithm

Quick Sort using Hoare's Partitioning scheme

External merge sort

Counting Sort Algorithm

Custom Sort | Sort elements by their frequency and Index

Custom Sort | Sort elements of the array by order of elements defined by the second array

Inversion Count of an array

Segregate positive and negative integers in linear time

Efficiently Sort an Array with many Duplicated Values

Find the smallest window in array sorting which will make the entire array sorted

Find largest number possible from set of given numbers

Move all zeros present in the array to the end

Sort binary array in linear time

Sort linked list containing 0's, 1's and 2's

Merge Sort Algorithm for Singly Linked List

Group anagrams together from given list of words

Activity Selection Problem

Lexicographic sorting of given set of keys

Heap Sort Algorithm

Merge M sorted lists of variable length

Merge M sorted lists each containing N elements

Find all palindromic permutations of a string

Find all lexicographically next permutations of a string sorted in ascending order

Merge two sorted linked lists from their end

Sort an array containing 0's, 1's and 2's (Dutch national flag problem)

Find pair with given sum in the array

Inplace merge two sorted arrays

Merge two arrays by satisfying given constraints

Find maximum product of two integers in an array

Find all distinct combinations of given length

Find all distinct combinations of given length with repetition allowed

Merging Overlapping Intervals

Print all quadruplets with given sum | 4-sum problem extended

4 sum problem | Quadruplets with given sum

Find two numbers with maximum sum formed by array digits
Find a Triplet having Maximum Product in an Array
Find Minimum Product among all Combinations of Triplets in an Array
Find all distinct combinations of given length - Part 2
Find the surpasser count for each element of an array

Stack

Stack Implementation

Stack Implementation using Linked List

Check if given expression is balanced expression or not

Find duplicate parenthesis in an expression

Evaluate given postfix expression

Decode the given sequence to construct minimum number without repeated digits

Design a stack which returns minimum element in constant time

Design a stack which returns minimum element without using auxiliary stack

Reverse a string without using recursion

Reverse a string using stack data structure

Inorder Tree Traversal | Iterative & Recursive

Preorder Tree Traversal | Iterative & Recursive

Postorder Tree Traversal | Iterative & Recursive

Find ancestors of given node in a Binary Tree

Check if two given binary trees are identical or not | Iterative & Recursive

Reverse Level Order Traversal of Binary Tree

Reverse given text without reversing the individual words

Find all binary strings that can be formed from given wildcard pattern

Iterative Implementation of Quicksort

Depth First Search (DFS) | Iterative & Recursive Implementation

Invert given Binary Tree | Recursive and Iterative solution

Print leaf to root path for every leaf node in a binary tree

Longest Increasing Subsequence

String

Check if given string is a rotated palindrome or not

Longest Palindromic Substring (Non-DP Space Optimized Solution)

Check if repeated subsequence is present in the string or not

Check if strings can be derived from each other by circularly rotating them

Check if given set of moves is circular or not
Convert given number into corresponding excel column name
Determine if two strings are anagram or not
Find all binary strings that can be formed from given wildcard pattern
Find all interleavings of given strings
Isomorphic Strings
Find all possible palindromic substrings in a string
Find all possible combinations of words formed from mobile keypad
Find all possible combinations by replacing given digits with characters of the corresponding list
Find all words from given list that follows same order of characters as given pattern
Find first k non-repeating characters in a string in single traversal
Group anagrams together from given list of words
Introduction to Pattern Matching
Inplace remove all occurrences of 'AB' and 'C' from the string
Longest even length palindromic sum substring
Print string in zig-zag form in k rows
Reverse given text without reversing the individual words
Run Length Encoding (RLE) data compression algorithm
Validate an IP address
Find the longest substring of given string containing k distinct characters
Find all palindromic permutations of a string
Find all substrings of a string that are permutation of a given string
Find the longest substring of given string containing all distinct characters
Find all Permutations of a given string
Iterative Approach to find Permutations of a String
Generate all Permutations of a String in Java | Recursive & Iterative
Find all lexicographically next permutations of a string sorted in ascending order
Find Lexicographically minimal string rotation
Find all strings of given length containing balanced parentheses
Find all N-digit strictly increasing numbers (Bottom-Up and Top-Down Approach)
Find all N-digit binary numbers having more 1's than 0's for any prefix
Find all N-digit numbers with given sum of digits
Find all N-digit binary numbers with k-bits set where k ranges from 1 to N
Generate binary numbers between 1 to N
Find all combinations of non-overlapping substrings of a string
Check if given sentence is syntactically correct or not
Calculate rank of given string among all its lexicographically sorted permutations
Find all Lexicographic Permutations of a String
Find all N-digit binary numbers with equal sum of bits in its two halves
Check if given string is interleaving of two other given strings

Difference between Subarray, Subsequence and Subset
std::next_permutation | Overview & Implementation in C++
std::prev_permutation | Overview & Implementation in C++
Implementation of KMP Algorithm
Reverse String without using Recursion
Reverse given string using Recursion
Reverse a String in Java in 10 different ways
Determine if a given string is palindrome or not
In-place remove all adjacent duplicates from the given string
Find the minimum number of inversions needed to make the given expression balanced
Replace all non-overlapping occurrences of the pattern
Construct the longest palindrome by shuffling or deleting characters from a string
Determine if characters of a String follows a specified order or not
Print all combinations of phrases that can be formed by picking words from each of the given lists
Remove all extra spaces from a string
Break a string into all possible combinations of non-overlapping substrings
Remove adjacent duplicate characters from a string
Find first non-repeating character in a string by doing only one traversal of it
Find all N-digit numbers with equal sum of digits at even and odd index

Combinations of words formed by replacing given numbers with corresponding alphabets
Word Break Problem
Wildcard Pattern Matching
Count number of times a pattern appears in given string as a subsequence
The Levenshtein distance (Edit distance) problem
Longest Common Subsequence | Introduction & LCS Length
Longest Common Subsequence | Space optimized version
Longest Common Subsequence of K-sequences
Longest Common Subsequence | Finding all LCS
Longest Repeated Subsequence problem
Longest Palindromic Subsequence using Dynamic Programming
Longest Common Substring problem
Shortest Common Supersequence | Introduction & SCS Length
Shortest Common Supersequence | Finding all SCS
Shortest Common Supersequence | Using LCS
Implement Diff Utility
Word Break Problem | Using Trie Data Structure
Find minimum cuts needed for palindromic partition of a string
Check if a string is K-Palindrome or not
Find shortest route in a device to construct the given string

Find minimum number possible by doing at-most K swaps
Determine if a pattern matches with a string or not

Trie

Trie Implementation | Insert, Search and Delete
Memory efficient Trie Implementation using Map | Insert, Search and Delete
C++ Implementation of Trie Data Structure
Longest Common Prefix in given set of strings (using Trie)
Lexicographic sorting of given set of keys
Find maximum occurring word in given set of strings
Find first k maximum occurring words in given set of strings
Find Duplicate rows in a binary matrix
Word Break Problem | Using Trie Data Structure

Greedy

Activity Selection Problem
Huffman Coding
Shortest Superstring Problem
Job Sequencing Problem with Deadlines
Greedy coloring of graph
Kruskal's Algorithm for finding Minimum Spanning Tree
Single-Source Shortest Paths – Dijkstra's Algorithm

Puzzles

Clock angle problem – Find angle between hour and minute hand
Add two numbers without using addition operator
Generate power set of a given set
Implement power function without using multiplication and division operators
Print all numbers between 1 to N without using semicolon
Swap two numbers without using third variable
Determine the if condition to print specific output
Find max and min of three numbers without using conditional statement and ternary operator
Find numbers represented as sum of two cubes for two different pairs
Print "Hello World" with empty main() function
Tower of Hanoi Problem
Print all numbers between 1 to N without using any loop

Print a semicolon without using semicolon anywhere in the program
Multiply two numbers without using multiplication operator or loops
Find square of a number without using multiplication and division operator
Find if a number is even or odd without using any conditional statement
Set both elements of a binary array to 0 in single line
Find minimum number without using conditional statement or ternary operator
Perform Division of two numbers without using division operator (/)
Generate 0 and 1 with 75% and 25% Probability
Generate Desired Random Numbers With Equal Probability
Return 0, 1 and 2 with equal Probability using the specified function
Generate Fair Results from a Biased Coin
Generate numbers from 1 to 7 with equal probability using specified function
Implement Ternary Operator Without Using Conditional Expressions
Determine if two integers are equal without using comparison and arithmetic operators
Return 0 and 1 with equal Probability using the specified function
Generate Random Input from an Array according to given Probabilities
Generate Fair Results from a Biased Coin
Magnet Puzzle

Thank you all being with us.