



DSA Sheet by Love Babbar

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Who is Love Babbar?

Love Babbar is a famous Youtuber, graduated from NSUT Delhi who has also worked as a Software Engineer at Amazon.

What is a DSA Sheet?

A sheet that covers almost every concept of Data Structures and Algorithms.



So, this DSA sheet by Love Babbar contains 450 coding questions which will help in:

- Understanding each and every concept of DSA.
- Clearing the DSA round for the Interviews, as these are the questions generally asked in the companies like Amazon, Microsoft, Google, etc.
- Basic Knowledge of [Data Structures](#) and [Algorithms](#).
- Having good knowledge of at-least one programming knowledge like [C++](#), [Java](#), [Python](#).
- Know how to use [STL](#) as it will make data structures and few techniques easier to implement.

Below is the topic-wise distribution of 450 questions:

- | | |
|--|---|
| <ul style="list-style-type: none">• Arrays(36)• Matrix(10)• Strings(43)• Searching and Sorting(36)• Linked List(36)• Bit Manipulation(10)• Greedy(35)• Backtracking(19) | <ul style="list-style-type: none">• Dynamic Programming(60)• Stacks and Queues(38)• Binary Trees(35)• Binary Search Tree(22)• Graphs(44)• Heap(18)• Trie(6) |
|--|---|

This sheet can be completed within 2-3 months without any cheat day. So, Start solving this 450 DSA Cracker from today itself.
 Keep a track of all the problems mentioned below: [Practice Love Babbar DSA Sheet](#)

Arrays

| Question | Article | Practice |
|---|----------------------|----------------------|
| Reverse an Array/String | Link | Link |
| Find the maximum and minimum element in an array | Link | Link |
| Find the “Kth” max and min element of an array | Link | Link |
| Given an array which consists of only 0, 1 and 2. Sort the array without using any sorting algo | Link | Link |
| Move all the negative elements to one side of the array | Link | Link |
| Find the Union and Intersection of the two sorted arrays. | Link | Link |
| Write a program to cyclically rotate an array by one. | Link | Link |
| Find Largest sum contiguous Subarray [V. IMP] | Link | Link |
| Minimize the maximum difference between heights [V.IMP] | Link | Link |
| Minimum no. of Jumps to reach end of an array | Link | Link |
| Find duplicate in an array of N+1 Integers | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Merge 2 sorted arrays without using Extra space. | Link | Link |
| Kadane's Algo [V.V.V.V.V IMP] | Link | Link |
| Merge Intervals | Link | Link |
| Next Permutation | Link | Link |
| Count Inversion | Link | Link |
| Best time to buy and Sell stock | Link | Link |
| Find all pairs on integer array whose sum is equal to given number | Link | Link |
| Find common elements In 3 sorted arrays | Link | Link |
| Rearrange the array in alternating positive and negative items with O(1) extra space | Link | Link |
| Find if there is any subarray with sum equal to 0 | Link | Link |
| Find factorial of a large number | Link | Link |
| Find maximum product subarray | Link | Link |
| Find longest consecutive subsequence | Link | Link |
| Given an array of size n and a number k, fin all elements that appear more than " n/k " times. | Link | Link |
| Maximum profit by buying and selling a share at most twice | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Find whether an array is a subset of another array | Link | Link |
| Find the triplet that sum to a given value | Link | Link |
| Trapping Rain water problem | Link | Link |
| Chocolate Distribution problem | Link | Link |
| Smallest Subarray with sum greater than a given value | Link | Link |
| Three way partitioning of an array around a given value | Link | Link |
| Minimum swaps required bring elements less equal K together | Link | Link |
| Minimum no. of operations required to make an array palindrome | Link | Link |
| Median of 2 sorted arrays of equal size | Link | Link |
| Median of 2 sorted arrays of different size | Link | Link |

Matrix

| Question | Article | Practice |
|---|----------------------|----------------------|
| Spiral traversal on a Matrix | Link | Link |
| Search an element in a Matrix | Link | Link |
| Find median in a row wise sorted matrix | Link | Link |
| Find row with maximum no. of 1's | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Print elements in sorted order using row-column wise sorted matrix | Link | Link |
| Maximum size rectangle | Link | Link |
| Find a specific pair in matrix | Link | NA |
| Rotate matrix by 90 degrees | Link | Link |
| Kth smallest element in a row-column wise sorted matrix | Link | Link |
| Common elements in all rows of a given matrix | Link | Link |

Strings

| Question | Article | Practice |
|--|----------------------|----------------------|
| Reverse a String | Link | Link |
| Check whether a String is Palindrome or not | Link | Link |
| Find Duplicate characters in a string | Link | NA |
| Why strings are immutable in Java? | Link | NA |
| Write a Code to check whether one string is a rotation of another | Link | Link |
| Write a Program to check whether a string is a valid shuffle of two strings or not | Link | NA |
| Count and Say problem | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Write a program to find the longest Palindrome in a string.[Longest palindromic Substring] | Link | Link |
| Find Longest Recurring Subsequence in String | Link | Link |
| Print all Subsequences of a string. | Link | NA |
| Print all the permutations of the given string | Link | Link |
| Split the Binary string into two substring with equal 0's and 1's | Link | NA |
| Word Wrap Problem [VERY IMP]. | Link | Link |
| EDIT Distance [Very Imp] | Link | Link |
| Find next greater number with same set of digits. [Very Very IMP] | Link | Link |
| Balanced Parenthesis problem.[Imp] | Link | Link |
| Word break Problem[Very Imp] | Link | Link |
| Rabin Karp Algorithm | Link | Link |
| KMP Algorithm | Link | Link |
| Convert a Sentence into its equivalent mobile numeric keypad sequence. | Link | Link |
| Minimum number of bracket reversals needed to make an expression balanced. | Link | Link |
| Count All Palindromic Subsequence in a given String. | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Count of number of given string in 2D character array | Link | Link |
| Search a Word in a 2D Grid of characters. | Link | Link |
| Boyer Moore Algorithm for Pattern Searching. | Link | Link |
| Converting Roman Numerals to Decimal | Link | Link |
| Longest Common Prefix | Link | Link |
| Number of flips to make binary string alternate | Link | Link |
| Find the first repeated word in string. | Link | Link |
| Minimum number of swaps for bracket balancing. | Link | Link |
| Find the longest common subsequence between two strings. | Link | Link |
| Program to generate all possible valid IP addresses from given string. | Link | Link |
| Write a program to find the smallest window that contains all characters of string itself. | Link | Link |
| Rearrange characters in a string such that no two adjacent are same | Link | Link |
| Minimum characters to be added at front to make string palindrome | Link | Link |
| Given a sequence of words, print all anagrams together | Link | Link |

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

Searching and Sorting:

| Question | Article | Practice |
|---|----------------------|----------------------|
| Find first and last positions of an element in a sorted array | Link | Link |
| Find a Fixed Point (Value equal to index) in a given array | Link | Link |
| Search in a rotated sorted array | Link | Link |
| Square root of an integer | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Maximum and minimum of an array using minimum number of comparisons | Link | Link |
| Optimum location of point to minimize total distance | Link | Link |
| Find the repeating and the missing | Link | Link |
| Find majority element | Link | Link |
| Searching in an array where adjacent differ by at most k | Link | Link |
| Find a pair with a given difference | Link | Link |
| Find four elements that sum to a given value | Link | Link |
| Maximum sum such that no 2 elements are adjacent | Link | Link |
| Count triplet with sum smaller than a given value | Link | Link |
| Merge 2 sorted arrays | Link | Link |
| Product array Puzzle | Link | Link |
| Sort array according to count of set bits | Link | Link |
| Minimum no. of swaps required to sort the array | Link | Link |
| Bishu and Soldiers | Link | Link |
| Rasta and Kheshtak | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Kth smallest number again | Link | Link |
| Find pivot element in a sorted array | Link | Link |
| K-th Element of Two Sorted Arrays | Link | Link |
| Aggressive cows | Link | Link |
| Book Allocation Problem | Link | Link |
| EKOSPOJ: | Link | Link |
| Job Scheduling Algo | Link | Link |
| Missing Number in AP | Link | Link |
| Smallest number with atleast n trailing zeroes in factorial | Link | Link |
| Painters Partition Problem: | Link | Link |
| ROTI-Prata SPOJ | Link | Link |
| DoubleHelix SPOJ | Link | Link |
| Subset Sums | Link | Link |
| Find the inversion count | Link | Link |
| Implement Merge-sort in-place | Link | Link |
| Partitioning and Sorting Arrays with Many Repeated Entries | Link | Link |

LinkedList:

| Question | Article | Practice |
|--|----------------------|----------------------|
| Write a Program to reverse the Linked List. (Both Iterative and recursive) | Link | Link |
| Reverse a Linked List in group of Given Size. [Very Imp] | Link | Link |
| Write a program to Detect loop in a linked list. | Link | Link |
| Write a program to Delete loop in a linked list. | Link | Link |
| Find the starting point of the loop. | Link | Link |
| Remove Duplicates in a sorted Linked List. | Link | Link |
| Remove Duplicates in a Un-sorted Linked List. | Link | Link |
| Write a Program to Move the last element to Front in a Linked List. | Link | Link |
| Add “1” to a number represented as a Linked List. | Link | Link |
| Add two numbers represented by linked lists. | Link | Link |
| Intersection of two Sorted Linked List. | Link | Link |
| Intersection Point of two Linked Lists. | Link | Link |
| Merge Sort For Linked lists.[Very Important] | Link | Link |
| Quicksort for Linked Lists.[Very Important] | Link | Link |
| Find the middle Element of a linked list. | Link | Link |
| Check if a linked list is a circular linked list. | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Split a Circular linked list into two halves. | Link | Link |
| Write a Program to check whether the Singly Linked list is a palindrome or not. | Link | Link |
| Deletion from a Circular Linked List. | Link | Link |
| Reverse a Doubly Linked list. | Link | Link |
| Find pairs with a given sum in a DLL. | Link | Link |
| Count triplets in a sorted DLL whose sum is equal to given value “X”. | Link | Link |
| Sort a “k”sorted Doubly Linked list.[Very IMP] | Link | Link |
| Rotate Doubly Linked list by N nodes. | Link | Link |
| Rotate a Doubly Linked list in group of Given Size. [Very IMP] | Link | Link |
| Can we reverse a linked list in less than O(n) ? | Link | Link |
| Why Quicksort is preferred for. Arrays and Merge Sort for Linked Lists ? | Link | Link |
| Flatten a Linked List | Link | Link |
| Sort a LL of 0's, 1's and 2's | Link | Link |
| Clone a linked list with next and random pointer | Link | Link |
| Merge K sorted Linked list | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Multiply 2 no. represented by LL | Link | Link |
| Delete nodes which have a greater value on right side | Link | Link |
| Segregate even and odd nodes in a Linked List | Link | Link |
| Program for n'th node from the end of a Linked List | Link | Link |

Bit Manipulation:

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

| Question | Article | Practice |
|-----------|----------------------|----------------------|
| Power Set | Link | Link |

Greedy

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

| Question | Article | Practice |
|--|----------------------|----------------------|
| Check if it is possible to survive on Island | Link | Link |
| Find maximum meetings in one room | Link | Link |
| Maximum product subset of an array | Link | Link |
| Maximize array sum after K negations | Link | Link |
| Maximize the sum of $\text{arr}[i]*i$ | Link | Link |
| Maximum sum of absolute difference of an array | Link | Link |
| Maximize sum of consecutive differences in a circular array | Link | Link |
| Minimum sum of absolute difference of pairs of two arrays | Link | Link |
| Program for Shortest Job First (or SJF) CPU Scheduling | Link | Link |
| Program for Least Recently Used (LRU) Page Replacement algorithm | Link | Link |
| Smallest subset with sum greater than all other elements | Link | Link |
| Chocolate Distribution Problem | Link | Link |
| DEFKIN -Defense of a Kingdom | Link | Link |
| DIEHARD -DIE HARD | Link | Link |
| GERGOVIA -Wine trading in Gergovia | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Picking Up Chicks | Link | Link |
| CHOCOLA –Chocolate | Link | Link |
| ARRANGE -Arranging Amplifiers | Link | Link |
| K Centers Problem | Link | Link |
| Minimum Cost of ropes | Link | Link |
| Find smallest number with given number of digits and sum of digits | Link | Link |
| Rearrange characters in a string such that no two adjacent are same | Link | Link |
| Find maximum sum possible equal sum of three stacks | Link | Link |

Backtracking

| Question | Article | Practice |
|---------------------------------------|----------------------|----------------------|
| Rat in a maze Problem | Link | Link |
| Printing all solutions in N-Queen | Link | Link |
| Word Break Problem using Backtracking | Link | Link |
| Remove Invalid Parentheses | Link | Link |
| Sudoku Solver | Link | Link |
| M Coloring Problem | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Print all palindromic partitions of a string | Link | Link |
| Subset Sum Problem | Link | Link |
| The Knight's tour problem | Link | Link |
| Tug of War | Link | Link |
| Find shortest safe route in a path with landmines | Link | Link |
| Combinational Sum | Link | Link |
| Find Maximum number possible by doing at-most K swaps | Link | Link |
| Print all permutations of a string | Link | Link |
| Find if there is a path of more than k length from a source | Link | Link |
| Longest Possible Route in a Matrix with Hurdles | Link | Link |
| Print all possible paths from top left to bottom right of a mXn matrix | Link | Link |
| Partition of a set into K subsets with equal sum | Link | Link |
| Find the K-th Permutation Sequence of first N natural numbers | Link | Link |

Dynamic Programming

| Question | Article | Practice |
|---------------------|----------------------|----------------------|
| Coin Change Problem | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Knapsack Problem | Link | Link |
| Binomial Coefficient Problem | Link | Link |
| Permutation Coefficient Problem | Link | Link |
| Program for nth Catalan Number | Link | Link |
| Matrix Chain Multiplication | Link | Link |
| Edit Distance | Link | Link |
| Subset Sum Problem | Link | Link |
| Friends Pairing Problem | Link | Link |
| Gold Mine Problem | Link | Link |
| Assembly Line Scheduling Problem | Link | Link |
| Painting the Fence problem | Link | Link |
| Maximize The Cut Segments | Link | Link |
| Longest Common Subsequence | Link | Link |
| Longest Repeated Subsequence | Link | Link |
| Longest Increasing Subsequence | Link | Link |
| Space Optimized Solution of LCS | Link | Link |
| LCS (Longest Common Subsequence) of three strings | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Maximum Sum Increasing Subsequence | Link | Link |
| Count all subsequences having product less than K | Link | Link |
| Longest subsequence such that difference between adjacent is one | Link | Link |
| Maximum subsequence sum such that no three are consecutive | Link | Link |
| Egg Dropping Problem | Link | Link |
| Maximum Length Chain of Pairs | Link | Link |
| Maximum size square sub-matrix with all 1s | Link | Link |
| Maximum sum of pairs with specific difference | Link | Link |
| Min Cost Path Problem | Link | Link |
| Maximum difference of zeros and ones in binary string | Link | Link |
| Minimum number of jumps to reach end | Link | Link |
| Minimum cost to fill given weight in a bag | Link | Link |
| Minimum removals from array to make max –min $\leq K$ | Link | Link |
| Longest Common Substring | Link | Link |
| Count number of ways to reach a given score in a game | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Count Balanced Binary Trees of Height h | Link | Link |
| LargestSum Contiguous Subarray [V>V>V>V IMP] | Link | Link |
| Smallest sum contiguous subarray | Link | Link |
| Unbounded Knapsack (Repetition of items allowed) | Link | Link |
| Word Break Problem | Link | Link |
| Largest Independent Set Problem | Link | Link |
| Partition problem | Link | Link |
| Longest Palindromic Subsequence | Link | Link |
| Count All Palindromic Subsequence in a given String | Link | Link |
| Longest Palindromic Substring | Link | Link |
| Longest alternating subsequence | Link | Link |
| Weighted Job Scheduling | Link | Link |
| Coin game winner where every player has three choices | Link | Link |
| Count Derangements (Permutation such that no element appears in its original position) [IMPORTANT] | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Maximum profit by buying and selling a share at most twice [IMP] | Link | Link |
| Optimal Strategy for a Game | Link | Link |
| Optimal Binary Search Tree | Link | Link |
| Palindrome Partitioning Problem | Link | Link |
| Word Wrap Problem | Link | Link |
| Mobile Numeric Keypad Problem [IMP] | Link | Link |
| Boolean Parenthesization Problem | Link | Link |
| Largest rectangular sub-matrix whose sum is 0 | Link | Link |
| Largest area rectangular sub-matrix with equal number of 1's and 0's [IMP] | Link | Link |
| Maximum sum rectangle in a 2D matrix | Link | Link |
| Maximum profit by buying and selling a share at most k times | Link | Link |
| Find if a string is interleaved of two other strings | Link | Link |
| Maximum Length of Pair Chain | Link | Link |

Stacks and Queues

| Question | Article | Practice |
|------------------------------|----------------------|----------------------|
| Implement Stack from Scratch | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Implement Queue from Scratch | Link | Link |
| Implement 2 stack in an array | Link | Link |
| Find the middle element of a stack | Link | Link |
| Implement “N” stacks in an Array | Link | Link |
| Check the expression has valid or Balanced parenthesis or not. | Link | Link |
| Reverse a String using Stack | Link | Link |
| Design a Stack that supports getMin() in O(1) time and O(1) extra space. | Link | Link |
| Find the next Greater element | Link | Link |
| The celebrity Problem | Link | Link |
| Arithmetic Expression evaluation | Link | Link |
| Evaluation of Postfix expression | Link | Link |
| Implement a method to insert an element at its bottom without using any other data structure. | Link | Link |
| Reverse a stack using recursion | Link | Link |
| Sort a Stack using recursion | Link | Link |
| Merge Overlapping Intervals | Link | Link |
| Largest rectangular Area in Histogram | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Length of the Longest Valid Substring | Link | Link |
| Expression contains redundant bracket or not | Link | Link |
| Implement Stack using Queue | Link | Link |
| Implement Stack using Deque | Link | Link |
| Stack Permutations (Check if an array is stack permutation of other) | Link | Link |
| Implement Queue using Stack | Link | Link |
| Implement “n” queue in an array | Link | Link |
| Implement a Circular queue | Link | Link |
| LRU Cache Implementation | Link | Link |
| Reverse a Queue using recursion | Link | Link |
| Reverse the first “K” elements of a queue | Link | Link |
| Interleave the first half of the queue with second half | Link | Link |
| Find the first circular tour that visits all Petrol Pumps | Link | Link |
| Minimum time required to rot all oranges | Link | Link |
| Distance of nearest cell having 1 in a binary matrix | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| First negative integer in every window of size “k” | Link | Link |
| Check if all levels of two trees are anagrams or not. | Link | Link |
| Sum of minimum and maximum elements of all subarrays of size “k”. | Link | Link |
| Minimum sum of squares of character counts in a given string after removing “k” characters. | Link | Link |
| Queue based approach or first non-repeating character in a stream. | Link | Link |
| Next Smaller Element | Link | Link |

Binary Trees

| Question | Article | Practice |
|---|----------------------|----------------------|
| Level order traversal | Link | Link |
| Reverse Level Order traversal | Link | Link |
| Height of a tree | Link | Link |
| Diameter of a tree | Link | Link |
| Mirror of a tree | Link | Link |
| Inorder Traversal of a tree both using recursion and Iteration | Link | Link |
| Preorder Traversal of a tree both using recursion and Iteration | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Postorder Traversal of a tree both using recursion and Iteration | Link | Link |
| Left View of a tree | Link | Link |
| Right View of Tree | Link | Link |
| Top View of a tree | Link | Link |
| Bottom View of a tree | Link | Link |
| Zig-Zag traversal of a binary tree | Link | Link |
| Check if a tree is balanced or not | Link | Link |
| Diagonal Traversal of a Binary tree | Link | Link |
| Boundary traversal of a Binary tree | Link | Link |
| Construct Binary Tree from String with Bracket Representation | Link | Link |
| Convert Binary tree into Doubly Linked List | Link | Link |
| Convert Binary tree into Sum tree | Link | Link |
| Construct Binary tree from Inorder and preorder traversal | Link | Link |
| Find minimum swaps required to convert a Binary tree into BST | Link | Link |
| Check if Binary tree is Sum tree or not | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Check if all leaf nodes are at same level or not | Link | Link |
| Check if a Binary Tree contains duplicate subtrees of size 2 or more [IMP] | Link | Link |
| Check if 2 trees are mirror or not | Link | Link |
| Sum of Nodes on the Longest path from root to leaf node | Link | Link |
| Check if given graph is tree or not. [IMP] | Link | Link |
| Find Largest subtree sum in a tree | Link | Link |
| Maximum Sum of nodes in Binary tree such that no two are adjacent | Link | Link |
| Print all “K” Sum paths in a Binary tree | Link | Link |
| Find LCA in a Binary tree | Link | Link |
| Find distance between 2 nodes in a Binary tree | Link | Link |
| Kth Ancestor of node in a Binary tree | Link | Link |
| Find all Duplicate subtrees in a Binary tree [IMP] | Link | Link |
| Tree Isomorphism Problem | Link | Link |

Binary Search Tree:

| Question | Article | Practice |
|-----------------------|----------------------|----------|
| Find a value in a BST | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Deletion of a node in a BST | Link | Link |
| Find min and max value in a BST | Link | Link |
| Find inorder successor and inorder predecessor in a BST | Link | Link |
| Check if a tree is a BST or not | Link | Link |
| Populate Inorder successor of all nodes | Link | Link |
| Find LCA of 2 nodes in a BST | Link | Link |
| Construct BST from preorder traversal | Link | Link |
| Convert Binary tree into BST | Link | Link |
| Convert a normal BST into a Balanced BST | Link | Link |
| Merge two BST [V.V.V>IMP] | Link | Link |
| Find Kth largest element in a BST | Link | Link |
| Find Kth smallest element in a BST | Link | Link |
| Count pairs from 2 BST whose sum is equal to given value “X” | Link | Link |
| Find the median of BST in O(n) time and O(1) space | Link | Link |
| Count BST nodes that lie in a given range | Link | Link |
| Replace every element with the least greater | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| element on its right | | |
| Given “n” appointments, find the conflicting appointments | Link | Link |
| Check preorder is valid or not | Link | Link |
| Check whether BST contains Dead end | Link | Link |
| Largest BST in a Binary Tree [V.V.V.V.V IMP] | Link | Link |
| Flatten BST to sorted list | Link | Link |

Graphs

| Question | Article | Practice |
|---|----------------------|----------------------|
| Create a Graph, print it | Link | Link |
| Implement BFS algorithm | Link | Link |
| Implement DFS Algo | Link | Link |
| Detect Cycle in Directed Graph using BFS/DFS Algo | Link | Link |
| Detect Cycle in Undirected Graph using BFS/DFS Algo | Link | Link |
| Search in a Maze | Link | Link |
| Minimum Step by Knight | Link | Link |
| Flood fill algo | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Clone a graph | Link | Link |
| Making wired Connections | Link | Link |
| Word Ladder | Link | Link |
| Dijkstra algo | Link | Link |
| Implement Topological Sort | Link | Link |
| Minimum time taken by each job to be completed given by a Directed Acyclic Graph | Link | Link |
| Find whether it is possible to finish all tasks or not from given dependencies | Link | Link |
| Find the no. of Islands | Link | Link |
| Given a sorted Dictionary of an Alien Language, find order of characters | Link | Link |
| Implement Kruksal'sAlgorithm | Link | Link |
| Implement Prim's Algorithm | Link | Link |
| Total no. of Spanning tree in a graph | Link | Link |
| Implement Bellman Ford Algorithm | Link | Link |
| Implement Floyd warshall Algorithm | Link | Link |
| Travelling Salesman Problem | Link | Link |
| Graph Colouring Problem | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Snake and Ladders Problem | Link | Link |
| Find bridge in a graph | Link | Link |
| Count Strongly connected Components(Kosaraju Algo) | Link | Link |
| Check whether a graph is Bipartite or Not | Link | Link |
| Detect Negative cycle in a graph | Link | Link |
| Longest path in a Directed Acyclic Graph | Link | Link |
| Journey to the Moon | Link | Link |
| Cheapest Flights Within K Stops | Link | Link |
| Oliver and the Game | Link | Link |
| Water Jug problem using BFS | Link | Link |
| Find if there is a path of more than length from a source | Link | Link |
| M-Colouring Problem | Link | Link |
| Minimum edges to reverse to make path from source to destination | Link | Link |
| Paths to travel each nodes using each edge(Seven Bridges) | Link | Link |
| Vertex Cover Problem | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------|
| Chinese Postman or Route Inspection | Link | Link |
| Number of Triangles in a Directed and Undirected Graph | Link | Link |
| Minimise the cashflow among a given set of friends who have borrowed money from each other | Link | Link |
| Two Clique Problem | Link | Link |

Heap

| Question | Article | Practice |
|---|----------------------|----------------------|
| Implement a Maxheap/MinHeap using arrays and recursion. | Link | Link |
| Sort an Array using heap. (HeapSort) | Link | Link |
| Maximum of all subarrays of size k. | Link | Link |
| “K” largest element in an array | Link | Link |
| Kth smallest and largest element in an unsorted array | Link | Link |
| Merge “K” sorted arrays. [IMP] | Link | Link |
| Merge 2 Binary Max Heaps | Link | Link |
| Kth largest sum continuous subarrays | Link | Link |
| Leetcode- reorganize strings | Link | Link |

| Question | Article | Practice |
|--|----------------------|----------------------|
| Merge “K” Sorted Linked Lists [V.IMP] | Link | Link |
| Smallest range in “K” Lists | Link | Link |
| Median in a stream of Integers | Link | Link |
| Check if a Binary Tree is Heap | Link | Link |
| Connect “n” ropes with minimum cost | Link | Link |
| Convert BST to Min Heap | Link | Link |
| Convert min heap to max heap | Link | Link |
| Rearrange characters in a string such that no two adjacent are same. | Link | Link |
| Minimum sum of two numbers formed from digits of an array | Link | Link |

Trie

| Question | Article | Practice |
|--|----------------------|----------------------|
| Construct a trie from scratch | Link | Link |
| Find shortest unique prefix for every word in a given list | Link | Link |
| Word Break Problem (Trie solution) | Link | Link |
| Given a sequence of words, print all anagrams together | Link | Link |
| Implement a Phone Directory | Link | Link |

| Question | Article | Practice |
|---|----------------------|----------------------|
| Print unique rows in a given boolean matrix | Link | Link |

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