Rahul Maheshwari's DSA Sheet
[Based on the internal interview databases of Tier-1 companies.]

Topic-1 Array
Binary Search :
- [Find first and last position of an element](#)
- [Find square root of an integer](#)
- [Find Peak Element](#)
- [Find Media of two sorted array](#)
- [Single element in a sorted array](#)

Misc :
- [Program to cyclically rotate an array by one](#)
- [Maximum sum of i*arr[i] among all rotations of a given array](#)
- [Rearrange an array such that arr[i] = i](#)
- [Rearrange an array in maximum minimum form | Set 1](#)
- [K'th Smallest/Largest Element in Unsorted Array | Set 3 (Worst Case Linear Time)](#)
- [Sqrt (or Square Root) Decomposition Technique | Set 1 (Introduction)](#)
- [GCDs of given index ranges in an array](#)
- [Maximum Occurrence in a Given Range](#)
- [Largest Sum Contiguous Subarray](#)
- [Count minimum steps to get the given desired array](#)
- [Sort elements by frequency | Set 1](#)
- [Count Inversions in an array | Set 1 (Using Merge Sort)](#)
- [Shortest Un-ordered Subarray](#)
- [Two Pointers Technique](#)
- [Maximum triplet sum in array](#)

Topic-2 LinkedList (LL)
- [Reverse a LL](#)
- [Reverse a LL in given group of size](#)
- [Reverse alternate K nodes of LL](#)
- [Print the reverse of a LL without actually reversing it](#)
- [Find the middle of a given LL](#)
- [Detect and remove loop in LL](#)
- [Find length of loop in LL](#)
- [Find Nth node of LL from the end](#)
- [Pairwise swap elements of a given LL](#)
- [Rotate a LL](#)
- [Check if LL is palindrome or not](#)
- [Write a function to get the intersection point of two LLs](#)
- [Find Intersection of two sorted LL](#)
- [Delete alternate nodes of LL](#)
- [Union and intersection of two LLs](#)
- [Merge two sorted LL](#)
- [Sum of two LL](#)
- [Pairwise swap of alternate nodes of LL](#)

Topic-3 Recursion
- [Given a string, print all possible palindromic partitions - GeeksforGeeks](#)
- [All possible binary numbers of length n with equal sum in both halves - GeeksforGeeks](#)
- [Power Set in Lexicographic order - GeeksforGeeks](#)
- [Print all increasing sequences of length k from first n natural numbers - GeeksforGeeks](#)
- [Generate all possible sorted arrays from alternate elements of two given sorted arrays - GeeksforGeeks](#)
- [Print alternate nodes of a linked list using recursion - GeeksforGeeks](#)
- [Print all longest common sub-sequences in lexicographical order - GeeksforGeeks](#)

Topic-4 Tree

- [Evaluation of Expression Tree - GeeksforGeeks](#)
- [Write a Program to Find the Maximum Depth or Height of a Tree - GeeksforGeeks](#)
- [Print Postorder traversal from given Inorder and Preorder traversals - GeeksforGeeks](#)
- [Level order traversal with direction change after every two levels - GeeksforGeeks](#)
- [Iterative Postorder Traversal | Set 2 (Using One Stack) - GeeksforGeeks](#)
- [Convert a given Binary Tree to Doubly Linked List | Set 4 - GeeksforGeeks](#)
- [Minimum swap required to convert binary tree to binary search tree - GeeksforGeeks](#)
- [Check whether a given Binary Tree is Complete or not | Set 1 (Iterative Solution) - GeeksforGeeks](#)
- [Check if a Binary Tree contains duplicate subtrees of size 2 or more - GeeksforGeeks](#)
- [Check if a binary tree is subtree of another binary tree | Set 2 - GeeksforGeeks](#)

Topic-5 Strings

- [Find Minimum and Maximum distinct persons entering or leaving the room - GeeksforGeeks](#)
- [Minimum partitions of String such that each part is at most K - GeeksforGeeks](#)
- [Smallest window containing 0, 1 and 2 - GeeksforGeeks](#)
- [Find the Substring with maximum frequency and containing only X and Y - GeeksforGeeks](#)
- [Remove longest prefix of the String which has duplicate substring - GeeksforGeeks](#)
- [Print all interleavings of given two strings - GeeksforGeeks](#)
- [Isomorphic Strings | Practice | GeeksforGeeks](#)
- [Validate an IP Address | Practice | GeeksforGeeks](#)
- [Form a palindrome | Practice | GeeksforGeeks](#)
- [Find largest word in dictionary | Practice | GeeksforGeeks](#)
- [Interleaved Strings | Practice | GeeksforGeeks](#)
- [Print Anagrams Together | Practice | GeeksforGeeks](#)
- [Search Pattern (KMP-Algorithm) | Practice | GeeksforGeeks](#)
- [Distinct palindromic substrings | Practice | GeeksforGeeks](#)
- [Minimum number of stops from given path - GeeksforGeeks](#)

Topic-6 Hashing

- [Find whether an array is subset of another array | Added Method 5 - GeeksforGeeks](#)
- [Count maximum points on same line - GeeksforGeeks](#)
- [Pair with given product | Set 1 (Find if any pair exists) - GeeksforGeeks](#)
- [Count pairs from two sorted arrays whose sum is equal to a given value x - GeeksforGeeks](#)
- **[Find number of Employees Under every Manager - GeeksforGeeks](#)**
- [Longest subarray with sum divisible by k - GeeksforGeeks](#)
- [Find the length of largest subarray with 0 sum - GeeksforGeeks](#)
- [Longest Increasing consecutive subsequence - GeeksforGeeks](#)
- [Find subarray with given sum | Set 2 (Handles Negative Numbers) - GeeksforGeeks](#)
- [Clone a Binary Tree with Random Pointers - GeeksforGeeks](#)
- [Largest subarray with equal number of 0s and 1s - GeeksforGeeks](#)
- [Palindrome Substring Queries - GeeksforGeeks](#)