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