

Curious freaks CODING SHEET by Nandhini

Checkout this video to understand efficient way to use this sheet - <https://youtu.be/ALpPSZFokQ>

Youtube Channel - <https://www.youtube.com/@curiousfreaks>

Lets use #FCodingSheet tag to share with friends on social media - https://www.instagram.com/its_me_nandny

Connect with me on LinkedIn - <https://www.linkedin.com/in/nandhini-raja-5071b4143/>

Only shared you need to go through placed in super high paying companies including google, amazon, salesforce, microsoft, adobe, etc

Solving time - Easy Problems - 5 to 15mins

Solving time - Medium Problems - 15 to 20mins

Solving time - Hard problems - At max 45mins - 50mins

Imp Note: Its not necessary that you know a topic, so for every topic you have here, first understand the basics of the topic, then for every pattern, you can learn the first prob in that pattern and then try solving other probs in that pattern yourself.

TOPIC	Problem	Problem link	Solution Tutorial	Solution Article	Solved	Notes
Basics						
Beginners basic math probs						
	Find even or odd	https://leetcode.com/problems/odd-or-even/5618/1	Best Tutorial link - click to view	Article link-click to view		
	Find last digit in a number	https://www.geeksforgeeks.org/problems/first-last-digit-of-a-no-for-large-numbers1536/1	Best Tutorial link - click to view	Article link-click to view		
	Count digits in a number(Solving above last digit prob will make this easy for you)	https://leetcode.com/problems/count-digits/5718/1	Best Tutorial link - click to view	Article link-click to view		
	Reverse a number(Try thinking how you can use above logic in solving this)	https://www.geeksforgeeks.org/problems/reverse-digits136/1	Best Tutorial link - click to view	Article link-click to view		
	Find power of a number	https://www.geeksforgeeks.org/problems/power-of-numbers-1587115620/1	Best Tutorial link - click to view	Article link-click to view		
	GCD	https://leetcode.com/problems/gcd-of-two-numbers3459/1	Best Tutorial link - click to view	Article link-click to view		
	Print all divisors of a number	https://www.codingninjas.com/studio/problems/print-all-divisors-of-a-number-1154158	Best Tutorial link - click to view	Article link-click to view		
	Prime number(Try solving by yourself)	https://leetcode.com/problems/prime-number214/1	Best Tutorial link - click to view	Article link-click to view		
	Armstrong number(Solving power of number, will make this easy for you)	https://www.geeksforgeeks.org/problems/armstrong-numbers2727/1	Best Tutorial link - click to view	Article link-click to view		
	Check palindrome of number(Use the techniques you learnt so far solving above probs and solve this by yourself)	https://leetcode.com/problems/palindrome-number749/1	Best Tutorial link - click to view	Article link-click to view		
	Square root of a number(Try to first figure out algo to solve this)	https://www.geeksforgeeks.org/problems/square-root/1	Best Tutorial link - click to view	Article link-click to view		
	Perfect number	https://leetcode.com/problems/perfect-numbers1207/1	Best Tutorial link - click to view	Article link-click to view		
Array - Data structure						
Basics with traversal						
	What is an array? How is it represented?		Best Tutorial link - click to view	Article link-click to view		
	Find the maximum and minimum element in array(After solving the search , you can solve all probs in this basics by yourself)	https://www.geeksforgeeks.org/problems/find-minimum-and-maximum-element-in-an-array42/1	Best Tutorial link - click to view	Article link-click to view		
	Find third largest element in array	https://leetcode.com/problems/third-largest-element/1	Best Tutorial link - click to view	Article link-click to view		
	Search an element in array(Understand how to traverse through the array and how to access the elements)	https://www.geeksforgeeks.org/problems/search-an-element-in-an-array-1587115641/1	Best Tutorial link - click to view	Article link-click to view		
	Find missing number in array	https://leetcode.com/problems/missing-number-in-array1418/1	Best Tutorial link - click to view	Article link-click to view		
	Find repeating number in array		Best Tutorial link - click to view			
	Sort an array of 0s , 1s and 2s (You dont need to know any sorting algo, just using basics, once solved, definitely learn the optimal algo)	https://www.geeksforgeeks.org/problems/sort-an-array-of-0s-1s-and-2s420117/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Check if two arrays are equal or not	https://www.geeksforgeeks.org/problems/check-if-two-arrays-are-equal-or-not384717/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Rotate the array by 1	https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Rotate the array by k	https://www.codingninjas.com/studio/problems/rotate-array_120543	Best Tutorial link - click to view	Article link-click to view		
	Array subset of another array	https://www.geeksforgeeks.org/problems/array-subset-of-another-array9371/1	Best Tutorial link - click to view	Article link-click to view		
	Learn what is map and how its represented before moving forward		Best Tutorial link - click to view	Article link-click to view		
	Count frequency of elements in array(Solve efficiently, try applying what you learnt about map)	https://leetcode.com/problems/frequency-of-array-elements-1587115630/1	Best Tutorial link - click to view	Article link-click to view		
Two pointer(This is very imp pattern, not just for these probs but very commonly you can use this technique)						
	Just like search, sort, this is also imp technique to learn					
	Find pair with given sum	https://www.geeksforgeeks.org/problems/two-sum-1587115617/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	3 Sum	https://leetcode.com/problems/3sum/1587115611/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	4 Sum	https://leetcode.com/problems/4sum/1	Best Tutorial link - click to view	Article link-click to view		
	Find triplets with zero sum	https://www.geeksforgeeks.org/problems/find-triplets-with-zero-sum/1	Best Tutorial link - click to view	Article link-click to view		
	Find count of triplets	Count the triplets Practice Geeks4Geeks	Best Tutorial link - click to view	Article link-click to view		
	Union of two arrays(learn the brute force & optimal soln, you will learn about set datastructure, which will be super useful in many probs in brute force)	https://www.geeksforgeeks.org/problems/union-of-two-arrays3538/1	Best Tutorial link - click to view	Article link-click to view		
	Intersection of two arrays	https://www.geeksforgeeks.org/problems/intersection-of-two-arrays240417/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Remove duplicates from array(Quite diff from above, try to solve on own, this actually shows that not always you will have pointers at start and end)	https://www.geeksforgeeks.org/problems/remove-duplicate-elements-from-sorted-array/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	kth element of 2 sorted arrays	https://www.geeksforgeeks.org/problems/k-th-element-of-two-sorted-arrays1717/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Length of longest subarray with sum k	https://www.geeksforgeeks.org/problems/longest-sub-array-with-sum-k1606/17 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Trapping rain water	https://www.geeksforgeeks.org/problems/trapping-rain-water-1587115611/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
Must Solve						
	Majority element	https://leetcode.com/problems/majority-element/1	Best Tutorial link - click to view	Article link-click to view		
	Kadane's algo(super imp)	https://leetcode.com/problems/max-subarray/1587115601/1	Best Tutorial link - click to view	Article link-click to view		
	Count inversions	https://leetcode.com/problems/inversion-of-array-1587115601/1	Best Tutorial link - click to view	Article link-click to view		
	Merge intervals	https://leetcode.com/problems/merge-intervals/1	Best Tutorial link - click to view	Article link-click to view		
	Maximum product subarray	https://leetcode.com/problems/maximum-product-subarray/1504/1	Best Tutorial link - click to view	Article link-click to view		
	Next permutation	https://leetcode.com/problems/next-permutation/1	Best Tutorial link - click to view	Article link-click to view		
	Sieve of eratosthenes(Popular algo for prime numbers)	https://www.geeksforgeeks.org/problems/sieve-of-eratosthenes5242/1	Best Tutorial link - click to view	Article link-click to view		
Time and space complexity						
Matrix - Data structure						
Travelsal & Basic & Must solve						
	What is a 2D Array? How to access element?	https://leetcode.com/problems/search-a-2d-matrix/1	Best Tutorial link - click to view	Article link-click to view		
	Search in a matrix	https://www.geeksforgeeks.org/problems/search-in-a-2d-matrix-1587115621/1	Best Tutorial link - click to view	Article link-click to view		
	Rotate by 90 degree	https://www.geeksforgeeks.org/problems/rotate-by-90-degree-1587115621/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Maximum num of 1's row	https://leetcode.com/problems/max-ones/238/1	Best Tutorial link - click to view	Article link-click to view		
	Left rotate matrix k times	https://www.geeksforgeeks.org/problems/left-rotate-matrix-k-times238/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Print matrix in diagonal pattern	https://leetcode.com/problems/print-matrix-in-diagonal-pattern/1	Best Tutorial link - click to view	Article link-click to view		
	Set matrix zeros	https://leetcode.com/problems/set-matrix-zeroes/1	Best Tutorial link - click to view	Article link-click to view		
Recursion - Technique						
Basics						
	Recursion is super important concept! Lets first understand the basics of recursion in this section before moving forward					
	Understand what recursion is and how it works(Draw the recursive tree for every recursive prob you solve)					
	Print 1 to N using recursion	https://www.geeksforgeeks.org/problems/print-1-to-n-without-using-loop-1587115601/1	Best Tutorial link - click to view	Article link-click to view		
	Factorial of N numbers	https://leetcode.com/problems/factorial/739/1 https://www.geeksforgeeks.org/problems/factorial-1338/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Fibonacci series using recursion	https://www.geeksforgeeks.org/problems/power-of-numbers-1587115620/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Power(x,N) Draw the recursion tree for all the probs for sure	https://www.geeksforgeeks.org/problems/print-pattern/3549/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Print pattern	https://www.geeksforgeeks.org/problems/print-pattern/3549/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Recursive implementation of atoi	https://www.geeksforgeeks.org/problems/atoi/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Pascal triangle	https://www.geeksforgeeks.org/problems/pascal-triangle/652/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
Binary Search - Algo						
Basic pattern						
	Search in a sorted array(Efficiently -> So learn binary search for this)	https://www.geeksforgeeks.org/problems/who-will-win-1587115621/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Find floor and ceil in sorted array	https://www.geeksforgeeks.org/problems/floor-in-a-sorted-array-1587115601/1	Best Tutorial link - click to view	Article link-click to view		
	Find first and last occurrence of element in sorted array	https://www.geeksforgeeks.org/problems/first-and-last-occurrences-of-x1116/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Find missing number from 1 to N	https://leetcode.com/problems/missing-number/1 https://www.geeksforgeeks.org/problems/square-root/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Find square root	https://www.codingninjas.com/studio/problems/search-in-infinite-sorted-0-1-array_696183	Best Tutorial link - click to view	Article link-click to view		
	Search for element in infinite array		Best Tutorial link - click to view	Article link-click to view		
	Search element in sorted rotated array(With and without duplicate)	https://leetcode.com/problems/search-in-rotated-sorted-array/4/1	Best Tutorial link - click to view	Article link-click to view		
	Minimum element in sorted rotated array(With and without duplicate) hint in normal BS is needed, once you learnt this, solve the below by yourself even try to solve this also by yourself	https://www.geeksforgeeks.org/problems/minimum-number-in-a-sorted-rotated-array-1587115620/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Number of times array is sorted	https://www.geeksforgeeks.org/problems/rotated-sorted-array/720/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Maximum element in sorted rotated array		Best Tutorial link - click to view	Article link-click to view		
Biotonic array						
	Find the peak element	https://www.geeksforgeeks.org/problems/peak-element/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Search element in biotonic array	https://www.interviewbit.com/problems/search-in-biotonic-array/	Best Tutorial link - click to view	Article link-click to view		
Matrix						
	Find row with maximum number of 1's	https://www.geeksforgeeks.org/problems/binary-matrix-having-maximum-number-of-1s-1206/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Search in row wise column wise sorted matrix	https://www.geeksforgeeks.org/problems/search-in-a-matrix-1587115621/17/1 https://www.geeksforgeeks.com/medium/Article&lin_campaign=bottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link-click to view		
	Search in sorted matrix II	https://leetcode.com/problems/search-a-2d-matrix-ii/1	Best Tutorial link - click to view	Article link-click to view		
	Find peak in sorted matrix	https://leetcode.com/problems/find-a-peak-element-ii/1	Best Tutorial link - click to view	Article link-click to view		
Application(Super imp)						
				Article link-click to view		

	Aggressive cows	https://www.geeksforgeeks.org/problems/aggressive-cows-17/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Allocate minimum pages	https://www.geeksforgeeks.org/problems/allocate-minimum-number-of-pages0117 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Painter partition	https://www.geeksforgeeks.org/problems/the-painter-partition-1080117/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Split array largest sum	https://www.geeksforgeeks.org/problems/split-array-largest-sum-14163417/page/2&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Minimum num of days to make m bouquets	https://leetcode.com/problems/minimum-number-of-days-to-make-m-bouquets/	Best Tutorial link - click to view	Article link click to view
	Capacity to ship packages within D days	https://www.geeksforgeeks.org/problems/capacity-to-ship-packages-within-d-days17/page/2&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	koko eating bananas	https://leetcode.com/problems/koko-eating-bananas/	Best Tutorial link - click to view	Article link click to view
	kth smallest number in matrix multiplication table	https://leetcode.com/problems/kth-smallest-number-in-multiplication-table/	Best Tutorial link - click to view	Article link click to view
	kth smallest pair distance	https://leetcode.com/problems/kth-smallest-pair-distance/	Best Tutorial link - click to view	Article link click to view
	Lgth number l	https://leetcode.com/problems/length-number-l/	Best Tutorial link - click to view	Article link click to view
	Median of 2 sorted arrays	Median of 2 Sorted Arrays of Different Sizes Practice GeeksforGeeks	Best Tutorial link - click to view	Article link click to view
	Find smallest divisor given threshold	Find the Smallest Divisor Given a Threshold - LeetCode	Best Tutorial link - click to view	Article link click to view
Sorting - Algo				
	Make sure to completely understand the algo thoroughly, and time & space complexity			
Basics	Bubble sort(very basic sorting technique)	https://www.geeksforgeeks.org/problems/bubble-sort17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Selection sort	https://www.geeksforgeeks.org/problems/selection-sort17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Insertion sort	https://www.geeksforgeeks.org/problems/insertion-sort17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Merge sort	https://www.geeksforgeeks.org/problems/merge-sort17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Quick sort	https://www.geeksforgeeks.org/problems/quick-sort17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
Linkedlist - Data structure				
Basic patterns	Completely understand how Node in linkedlist is represented and then go ahead with the patterns		Best Tutorial link - click to view	Article link click to view
	Create, Insert, Delete Operations in LL		Best Tutorial link - click to view	Article link click to view
	Search for a Element in LL(Once for create, insert is done, this should be easy)	https://www.geeksforgeeks.org/problems/search-in-linked-list-166454320/	Best Tutorial link - click to view	Article link click to view
	Reverse a LL(Learn the O space approach, learn recursive & iterative one)	https://www.geeksforgeeks.org/problems/reverse-a-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link - click to view
	Check if LL is a Palindrome(Once reversing is learnt, this should be easy)	https://www.geeksforgeeks.org/problems/check-if-linked-list-is-palindrome17/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link - click to view
Loop	Middle element of LL (Learn efficient approach)	https://www.geeksforgeeks.org/problems/middle-of-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link - click to view
	Find the intersection point of Y LL(Once you know traversal, apply node logic to solve this)	https://www.geeksforgeeks.org/problems/intersection-point-of-two-linked-lists17/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link - click to view
	Union and Intersection of LL	https://www.geeksforgeeks.org/problems/union-of-two-linked-lists17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link - click to view
	Delete without head pointer	https://www.geeksforgeeks.org/problems/delete-without-head-pointer17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link - click to view
	Count pairs with given sum	https://www.geeksforgeeks.org/problems/count-pairs-whose-sum-is-equal-to-x17/page/2&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link - click to view
Sorting, Merging & Related	Reverse LL in groups of given size(Once you learn reverse of LL's efficient approach, you can try this)	https://www.geeksforgeeks.org/problems/reverse-a-linked-list-in-groups-of-given-size17/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link - click to view
	Detect loop in LL(Once this is learnt, all the loop pattern probs below should be easy)	https://www.geeksforgeeks.org/problems/detect-loop-in-linked-list17 	Best Tutorial link - click to view	Article link - click to view
	Find length of loop in LL	https://www.geeksforgeeks.org/problems/length-of-loop-in-linked-list17/page/1&category=linear%20search&difficulty=Easy&difficulty=submissions	Best Tutorial link - click to view	Article link - click to view
	The starting point of loop	https://www.geeksforgeeks.org/problems/find-the-starting-point-of-loop-in-linked-list-170545/	Best Tutorial link - click to view	Article link - click to view
	Remove the loop	https://www.geeksforgeeks.org/problems/remove-loop-in-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link - click to view
Sorting, Merging & Related	Sort Os, 1s, 2s in LL	https://www.geeksforgeeks.org/problems/sort-a-linked-list-of-0s-1s-and-2s-sort47/page/1&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Pairwise swap elements	https://www.geeksforgeeks.org/problems/pair-wise-swap-elements-of-a-linked-list-by-swapping-data17/page/2&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Merge k sorted LL(Merge two sorted is easy version of this ques, if you are finding it diff to come up with logic, first solve that)	https://www.geeksforgeeks.org/problems/merge-two-sorted-linked-lists17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Merge sort in LL	https://www.geeksforgeeks.org/problems/merge-sort-in-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Quick sort in LL	https://www.geeksforgeeks.org/problems/quick-sort-in-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Remove occurrence of duplicates in sorted & unsorted LL	https://www.geeksforgeeks.org/problems/remove-duplicate-element-from-sorted-linked-list17/page/1&category=linear%20search&difficulty=Easy&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Segregate even and odd nodes in LL	https://www.geeksforgeeks.org/problems/segregate-even-and-odd-nodes-in-a-linked-list1636/	Best Tutorial link - click to view	Article link click to view
Arithmetic(Reversal & traversal - Once you learnt these, you can solve prob in this pattern)	Add 1 to a number represented as LL	https://practice.geeksforgeeks.org/problems/add-1-to-a-number-represented-as-linked-list1	Best Tutorial link - click to view	Article link click to view
	Add 2 numbers represented as LL	https://practice.geeksforgeeks.org/problems/add-two-numbers-represented-by-linked-lists1	Best Tutorial link - click to view	Article link click to view
	Subtraction on LL(Comes under hard but should be solvable once the above ones are solved)	https://www.geeksforgeeks.org/problems/subtraction-in-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
Just solve other probs(Try to solve these probs on your own, brute force atleast you can come up for most of them after solving above)	Rotate LL	https://www.geeksforgeeks.org/problems/rotate-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Flattening a LL(make sure to learn the efficient approach)	https://www.geeksforgeeks.org/problems/flattening-a-linked-list-17064017 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Delete nodes having greater value on right	https://practice.geeksforgeeks.org/problems/delete-nodes-having-greater-value-on-right1	Best Tutorial link - click to view	Article link click to view
	Delete N nodes after M nodes	https://www.geeksforgeeks.org/problems/delete-n-nodes-after-m-nodes-of-a-linked-list17/page/3&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Delete all occurrence of node	https://www.geeksforgeeks.org/problems/delete-a-linked-list-with-next-and-previous-pointer17/page/1&category=linear%20search&difficulty=Easy&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Clone a LL	https://www.geeksforgeeks.org/problems/clone-a-linked-list-with-next-and-previous-pointer17/page/1&category=linear%20search&difficulty=Easy&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Length of longest palindrome in LL	https://www.geeksforgeeks.org/problems/length-of-longest-palindrome-in-linked-list17/page/2&category=linear%20search&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Learn the basics of circular LL			
Double Linked List	Learn the basic representation of the nodes in LL		Best Tutorial link - click to view	Article link click to view
	Insert, Delete, Reverse DLL	https://www.geeksforgeeks.org/problems/insert-a-doubly-linked-list17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Pairs with given sum in DLL	https://www.geeksforgeeks.org/problems/pairs-with-given-sum-in-doubly-linked-list17/page/1&category=linear%20search&difficulty=Easy&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
Stack - Data structure				
Basic	What is stack? Learn how to represent the data structure and working of it	https://www.geeksforgeeks.org/problems/implement-stack-using-array17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Implement 2 stack using array	https://www.geeksforgeeks.org/problems/implement-two-stacks-in-an-array17/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Check for balanced parenthesis	https://www.geeksforgeeks.org/problems/parenthesis-checker274417 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Get min from stack in O(1) space and time	https://www.geeksforgeeks.org/problems/get-minimum-element-from-stack17/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
Next greater element	Next greater element	https://www.geeksforgeeks.org/problems/next-greater-element-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Next greater element II	https://leetcode.com/problems/next-greater-element-ii/	Best Tutorial link - click to view	Article link click to view
Next smallest element(Once above pattern is covered, try to solve this on your own)	Next smallest element on left	https://www.geeksforgeeks.org/problems/next-smallest-element-14163117 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Next smallest element on right	https://www.geeksforgeeks.org/problems/next-smallest-element-right-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Stock span problem(implementation Prob - Try to figure out the pattern from above next greater & smaller)	https://www.geeksforgeeks.org/problems/stock-span-problem-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Trapping rainwater	https://www.geeksforgeeks.org/problems/trapping-rain-water-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Maximum rectangular area on histogram(Once next greater and next smallest pattern is covered, this can be solved easily)	https://www.geeksforgeeks.org/problems/maximum-rectangular-area-in-a-histogram-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
Expressions	Max rectangle(Same as above, just a small twist)	https://www.geeksforgeeks.org/problems/max-rectangle-in-a-histogram-158711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
Reversing stack	Infix to postfix	https://www.geeksforgeeks.org/problems/infix-to-postfix-158711562017/page/2&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Evaluation of postfix expression	https://www.geeksforgeeks.org/problems/evaluation-of-postfix-expression-170711562017/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Prefix to postfix	https://practice.geeksforgeeks.org/problems/infix-to-postfix-158711562017	Best Tutorial link - click to view	Article link click to view
	Arithmetic expression evaluation	https://www.geeksforgeeks.org/problems/arithmetic-expression-evaluation-170711562017	Best Tutorial link - click to view	Article link click to view
Reversing stack	Insert at bottom of stack	https://www.geeksforgeeks.org/problems/insert-an-element-at-the-bottom-of-a-stack17/page/1&category=Stack&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Reverse a stack	https://www.geeksforgeeks.org/problems/reverse-a-stack17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Sort stack(Solving above two can give you hint for this)	https://www.geeksforgeeks.org/problems/sort-a-stack17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
Implementation probs	Celebrity problem	https://www.geeksforgeeks.org/problems/celebrity-problem17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Restrictive candy crush	https://www.geeksforgeeks.org/problems/restrictive-candy-crash-14163117 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
Queue - Data structure				
Basic pattern	What is queue? Learn the basic representation and how it's implemented?	https://www.geeksforgeeks.org/problems/implement-queue-using-array17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Implement queue using linkedlist	https://www.geeksforgeeks.org/problems/implement-queue-using-linked-list17/page/1&category=Queue&difficulty=submissions	Best Tutorial link - click to view	Article link click to view
	Implement queue using stack(super imp)	https://www.geeksforgeeks.org/problems/implement-queue-using-stack17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view
	Implement stack using queue(super imp)	https://www.geeksforgeeks.org/problems/implement-stack-using-queue17 https://www.geeksforgeeks.com/medium/article/kn_campaignbottom_48_ch_0n_Article	Best Tutorial link - click to view	Article link click to view

	Reverse a queue	https://www.geeksforgeeks.org/problems/queue-reversal/17?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Implementation probs	Circular tour	https://www.geeksforgeeks.org/problems/circular-tour-1587116620/1?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	First non repeating char in stream	https://www.geeksforgeeks.org/problems/first-non-repeating-character-in-a-stream/1234/1?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Reverse first k elements in queue	https://www.geeksforgeeks.org/problems/reverse-first-k-elements-of-queue/17?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	LRU Cache(super imp)	https://www.geeksforgeeks.org/problems/lru-cache/12?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Minimum cost of ropes	https://www.geeksforgeeks.org/problems/minimum-cost-of-ropes-1587115600/1?page=1&category=Queue&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Nearly sorted/Learn priority queue for sure)	https://www.geeksforgeeks.org/problems/nearly-sorted-1587115600/1?page=3&category=Arrays&difficulty=Medium	Best Tutorial link - click to view	Article link-click to view	
Sliding Window - Technique (Don't skip this topic. I personally have been asked this topic in many interviews)					
Fixed Sliding Window/Size of the window will be provided) GeeksForGeeks has very limited probs in this topic, so use leetcode for this even if you practice on gfg generally https://leetcode.com/problems/find-all-anagrams-in-a-string/ https://leetcode.com/problems/substring-at-hand/					
	Maximum sum subarray of size k	https://www.geeksforgeeks.org/problems/max-sum-subarray-of-size-k/134/17			
	Count distinct element in every window(Once you understand handling window size fixed from above prob, this will be easy)	https://www.geeksforgeeks.org/problems/count-distinct-elements-in-every-window/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	First negative integer in every window of size k(Try to solve on own before looking for soln since you did above topics too already)	https://www.geeksforgeeks.org/problems/first-negative-integer-in-every-window-of-size-k/334/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Maximum of all subarray of size k(Try to solve on own)	https://www.geeksforgeeks.org/problems/maximum-of-all-subarrays-of-size-k/101/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Count subarray of length k with k-1 distinct elements	https://www.geeksforgeeks.org/problems/subarrays-of-length-k-with-k-1-distinct-elements/12?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Maximum of minimum for every window(imp)	https://www.geeksforgeeks.org/problems/maximum-of-minimum-for-every-window-size/345/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Variable sliding window(Each prob will teach something in addition to the window so do solve everything)	Subarray with given sum	https://www.geeksforgeeks.org/problems/subarray-with-given-sum-158711564/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Longest subarray with given sum k(Same as above with slight modification)	https://www.geeksforgeeks.org/problems/longest-sub-array-with-sum-k/806/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Subarray with 0 sum	https://www.geeksforgeeks.org/problems/subarray-with-0-sum-158711564/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Smallest window of distinct elements	https://www.geeksforgeeks.org/problems/smallest-distinct-window/132/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Smallest window containing 0,1,2	https://www.geeksforgeeks.org/problems/smallest-window-in-a-string-containing-0-1-and-2-1706/17?page=2&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Smallest window in string containing all chars of another string	https://www.geeksforgeeks.org/problems/smallest-window-in-a-string-containing-all-the-characters-of-another-string-158711564/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Length of longest substring	https://www.geeksforgeeks.org/problems/length-of-the-longest-substring/30/6/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Largest subarray of 0s and 1s	https://www.geeksforgeeks.org/problems/largest-subarray-of-0s-and-1s/12?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Count of anagram occurrences(Super imp)	https://www.geeksforgeeks.org/problems/count-occurrences-of-anagram/43/3/17?page=1&category=sliding-window&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Max consecutive ones III	https://leetcode.com/problems/max-consecutive-ones-iii/	Best Tutorial link - click to view	Article link-click to view	
Trees - Data structure	Fruit into basket	https://leetcode.com/problems/fruit-into-basket/	Best Tutorial link - click to view	Article link-click to view	
	Count number of nice subarrays	https://leetcode.com/problems/count-number-of-nice-subarrays/	Best Tutorial link - click to view	Article link-click to view	
	Longest repeating char replacement	https://leetcode.com/problems/longest-repeating-character-replacement/	Best Tutorial link - click to view	Article link-click to view	
	Minimum window substring	https://leetcode.com/problems/minimum-window-substring/	Best Tutorial link - click to view	Article link-click to view	
	Minimum window subsequence(Understand the diff between subarray and subsequence before starting this prob)	https://leetcode.com/problems/minimum-window-subsequence/	Best Tutorial link - click to view	Article link-click to view	
	Subarray with k diff integers	https://leetcode.com/problems/subarray-with-k-different-integers/	Best Tutorial link - click to view	Article link-click to view	
Traversals	Understand the basic of how tree data structure is represented		Best Tutorial link - click to view		
	PreOrder Traversal	https://www.geeksforgeeks.org/problems/binary-tree-preorder-traversal/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	InOrder Traversal	https://www.geeksforgeeks.org/problems/inorder-traversal/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	PostOrder Traversal	https://www.geeksforgeeks.org/problems/postorder-traversal/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Level Order Traversal	https://www.geeksforgeeks.org/problems/binary-tree-level-order-traversal/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Boundary Traversal(Once level traversal is learnt, this you can solve)	https://www.geeksforgeeks.org/problems/boundary-traversal-of-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Vertical Traversal(Once level traversal is learnt, this you can solve. If extra logic is needed)	https://www.geeksforgeeks.org/problems/print-a-binary-tree-in-vertical-order/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Top View of BT(Once you have mastered level traversal, this should be easy)	https://www.geeksforgeeks.org/problems/top-view-of-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Bottom View of BT(Once you have mastered level traversal, this should be easy)	https://www.geeksforgeeks.org/problems/bottom-view-of-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Left View of BT(Once you have mastered vertical traversal, this should be easy)	https://www.geeksforgeeks.org/problems/left-view-of-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Basic and Easy patterns(Try to solve these once you learnt traversals)	Right View of BT(Once you have mastered vertical traversal, this should be easy)	https://www.geeksforgeeks.org/problems/right-view-of-binary-tree/12?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Diagonal Traversal	https://www.geeksforgeeks.org/problems/diagonal-traversal-of-binary-tree/38/category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Insert node in a tree	https://www.geeksforgeeks.org/problems/height-of-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Height of the tree	https://www.geeksforgeeks.org/problems/diameter-of-binary-tree/12?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Diameter of the tree	https://www.geeksforgeeks.org/problems/determine-if-two-trees-are-identical/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Check if 2 trees are identical	https://www.geeksforgeeks.org/problems/check-if-subtree/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Check if balanced tree	https://www.geeksforgeeks.org/problems/check-for-balanced-tree/12?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Lowest common Ancestor in BT	https://www.geeksforgeeks.org/problems/lowest-common-ancestor-in-a-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Sum tree	https://www.geeksforgeeks.org/problems/sum-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Path and Distance	Symmetric tree	https://www.geeksforgeeks.org/problems/symmetric-tree/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Mirror of a tree	https://www.geeksforgeeks.org/problems/mirror-image/12?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Check if isomorphic	https://www.geeksforgeeks.org/problems/check-if-two-trees-are-isomorphic/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Root to leaf paths	https://www.geeksforgeeks.org/problems/root-to-leaf-paths/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Root to leaf path sum (Once the root to leaf path is solved, this should be easy)	https://www.geeksforgeeks.org/problems/root-to-leaf-path-sum/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Maximum path sum from any node(Once the root to leaf path is solved, this should be easy)	https://www.geeksforgeeks.org/problems/path-sum-from-any-node/17?page=3&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	K Sum Paths (Once the root to leaf path is solved, this should be easy)	https://www.geeksforgeeks.org/problems/k-sum-paths/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Nodes at given distance	https://www.geeksforgeeks.org/problems/nodes-at-given-distance-in-binary-tree/17?page=3&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Range sum of BST(Solving nodes at given distance, will make this easy)		Best Tutorial link - click to view	Article link-click to view	
Binary Search Tree(Once the above patterns are covered, BST probs will become easy, but make sure to learn what BST is in general before starting with probs)	Minimum distance between 2 nodes(Solving nodes at given distance, will make this easy)	https://www.geeksforgeeks.org/problems/min-distance-between-two-given-nodes-of-a-binary-tree/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Maximum distance between node and ancestor(Must solve though distance pattern is covered)	https://www.geeksforgeeks.org/problems/maximum-distance-between-node-and-its-ancestor/17?page=3&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Min time to burn a tree(Using distance logic, this can be solved)	https://www.geeksforgeeks.org/problems/burning-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Understand what BST is?		Best Tutorial link - click to view	Article link-click to view	
	Insert a node in BST	https://leetcode.com/problems/insert-into-a-binary-search-tree/	Best Tutorial link - click to view	Article link-click to view	
	Search a value in BST(Learn efficient algo to do it, since this can be handled efficiently in BST than BT)	https://practice.geeksforgeeks.org/problems/search-a-node-in-bst/17	Best Tutorial link - click to view	Article link-click to view	
	Find minimum and maximum in BST	https://www.geeksforgeeks.org/problems/min-and-max-element-in-binary-tree/12?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Find the Kth largest element/Kth Smallest in BST(Try to solve it without looking for soln, since you have mastered all the above patterns, this should be easy)	https://www.geeksforgeeks.org/problems/kth-largest-element-in-bst/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Check for BST(Try solving probs in this pattern by yourself till LCA once above are solved)	https://www.geeksforgeeks.org/problems/check-for-bst/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Construct from given	Find the closest element in BST	https://www.geeksforgeeks.org/problems/find-the-closest-element-in-bst/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Count BST nodes in the given range	https://www.geeksforgeeks.org/problems/count-bst-nodes-that-lie-in-a-given-range/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Largest BST in BT(Super imp - Must solve)	https://www.geeksforgeeks.org/problems/maximum-size-sub-bst/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Lowest Common Ancestor in BST	https://www.geeksforgeeks.org/problems/lowest-common-ancestor-in-a-bst/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Merge two BST(Super imp - Must solve)	https://www.geeksforgeeks.org/problems/merge-two-bst/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Inorder successor and predecessor	https://www.geeksforgeeks.org/problems/inorder-successor-and-predecessor/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Populate inorder successor for all nodes	https://www.geeksforgeeks.org/problems/populate-inorder-successor-for-all-nodes/17?page=3&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	BST to greater sum tree	https://www.geeksforgeeks.org/problems/bst-to-greater-sum-tree/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Delete given node from BST	https://leetcode.com/problems/delete-node-in-a-bst/	Best Tutorial link - click to view	Article link-click to view	
Subtree & Other must do tree probs	Construct Binary Tree from Preorder and Inorder Traversal (First understand the concept of how to derive at the solution, then start coding it by yourself)	https://www.geeksforgeeks.org/problems/construct-tree-117	Best Tutorial link - click to view	Article link-click to view	
	Construct Binary Tree from Inorder and Postorder Traversal	https://leetcode.com/problems/construct-binary-tree-from-inorder-and-postorder-traversal/	Best Tutorial link - click to view	Article link-click to view	
	Construct BST from given preorder traversal	https://www.geeksforgeeks.org/problems/construct-bst-from-preorder-traversal/17?page=7&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Construct BT from parent array	https://www.geeksforgeeks.org/problems/construct-binary-tree-from-parent-array/17?page=5&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
Backtracking & Recursion advanced - Technique	Serialize and deserialize BT	https://www.geeksforgeeks.org/problems/serialize-and-deserialize-a-binary-tree/17?page=1&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Largest subtree sum in a tree	https://www.geeksforgeeks.org/problems/largest-subtree-sum-in-a-tree/17?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Maximum sum of non adjacent nodes	https://www.geeksforgeeks.org/problems/maximum-sum-of-non-adjacent-nodes/17?page=3&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Duplicate subtree	https://www.geeksforgeeks.org/problems/duplicate-subtree/12?page=4&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
	Flatten BT to linked list	https://www.geeksforgeeks.org/problems/flatten-binary-tree-to-linked-list/12?page=2&category=Tree&sortBy=submissions	Best Tutorial link - click to view	Article link-click to view	
https://leetcode.com/discuss/general-discussion/880960/a-general-approach-to-backtracking-problems-in-concise-and-intuitive-manner					
This is super imp topic before moving further! Draw the recursion tree to understand the flow as the first step, this will help in visualization of the flow					

<p>Basic patterns and must solve(Each prob in this pattern will teach you something and also as you solve, you will start mastering it though initially it takes sometime)</p>					
	Understand the basics of backtracking and start solving				
	Permutations of a string	https://www.geeksforgeeks.org/problems/permutations-of-a-given-string04117page=1&category=Backtracking&sortBy=submissions	Best Tutorial link	Article link	click to view
	Permutation II (You can solve on own once you solve above)	https://leetcode.com/problems/permutations-ii	Best Tutorial link	Article link	click to view
	Combination sum I	https://www.geeksforgeeks.org/problems/combination-sum-158711662012	Best Tutorial link	Article link	click to view
	Combination sum II(Once you solve combination I, you should be able to solve this and below 2 probs too easily)	https://leetcode.com/problems/combination-sum-ii	Best Tutorial link	Article link	click to view
	Combination sum III	https://leetcode.com/problems/combination-sum-iii	Best Tutorial link	Article link	click to view
	Rat in maze(Once above probs are solved, you can do this easily)	https://www.geeksforgeeks.org/problems/rat-in-a-maze-problem17	Best Tutorial link	Article link	click to view
	Possible words from phone digits	https://www.geeksforgeeks.org/problems/possible-words-from-phone-digits-158711562017page=1&category=Backtracking&sortBy=submissions	Best Tutorial link	Article link	click to view
	Subsets	https://www.geeksforgeeks.org/problems/subsets-161302734017	Best Tutorial link	Article link	click to view
	Unique subset(Solving above, you will be able to solve this easily)	https://www.geeksforgeeks.org/problems/subsets-158711562117	Best Tutorial link	Article link	click to view
	N-Queen(Super imp)	https://www.geeksforgeeks.org/problems/n-queens-problem021817	Best Tutorial link	Article link	click to view
	N Queen II	https://leetcode.com/problems/n-queens-ii	Best Tutorial link	Article link	click to view
	Permutation with spaces	https://www.geeksforgeeks.org/problems/permutation-with-spaces362712	Best Tutorial link	Article link	click to view
	Generate parantheses	https://www.geeksforgeeks.org/problems/generate-all-possible-valid-parentheses17page=1&category=Backtracking&sortBy=submissions	Best Tutorial link	Article link	click to view
	Generate IP address	https://www.geeksforgeeks.org/problems/generate-ip-addresses17	Best Tutorial link	Article link	click to view
	Solve the sudoku	https://www.geeksforgeeks.org/problems/solve-the-sudoku-158711562117	Best Tutorial link	Article link	click to view
	kth permutation	https://www.geeksforgeeks.org/problems/kth-permutation17	Best Tutorial link	Article link	click to view
	Word search	https://www.geeksforgeeks.org/problems/word-search17	Best Tutorial link	Article link	click to view
	Palindrome partition of string	https://www.geeksforgeeks.org/problems/partition-of-a-string-17	Best Tutorial link	Article link	click to view
	Decode the string	https://www.geeksforgeeks.org/problems/decode-the-string244417	Best Tutorial link	Article link	click to view
	Letter case permutation	https://leetcode.com/problems/letter-case-permutation	Best Tutorial link	Article link	click to view
	sum string	https://www.geeksforgeeks.org/problems/sum-string15117	Best Tutorial link	Article link	click to view
	word boggle	https://www.geeksforgeeks.org/problems/word-boggle17	Best Tutorial link	Article link	click to view
	Largest number in k swaps	https://www.geeksforgeeks.org/problems/largest-number-in-k-swaps-158711562117page=1&category=Backtracking&sortBy=submissions	Best Tutorial link	Article link	click to view
	Partition array to k subsets	https://www.geeksforgeeks.org/problems/partition-array-to-k-subsets17	Best Tutorial link	Article link	click to view
Most of the probs in this topics can be solved once you learn first couple of probs in each pattern of this topics					
Graphs - Data structure					
Traversals & Basic					
	Understand how graph is represented?	https://www.geeksforgeeks.org/problems/bfs-traversal-of-graph17	Best Tutorial link	Article link	click to view
	BFS Traversal(Super imp and basic)	https://www.geeksforgeeks.org/problems/bfs-traversal-of-a-graph17	Best Tutorial link	Article link	click to view
	DFS Traversal(Super imp and basic)	https://www.geeksforgeeks.org/problems/dfs-traversal-of-a-graph17	Best Tutorial link	Article link	click to view
	Detect cycle in Directed graph	https://www.geeksforgeeks.org/problems/detect-cycle-in-a-directed-graph17	Best Tutorial link	Article link	click to view
	Detect cycle in Undirected graph	https://www.geeksforgeeks.org/problems/detect-cycle-in-an-undirected-graph17page=1&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Detect Negative cycle in graph	https://www.geeksforgeeks.org/problems/negative-weight-cycle350417	Best Tutorial link	Article link	click to view
Connected component(After traversal, this will be easy to solve)					
	Connected component(Once you master this , all the below using this pattern will become super easy)	https://leetcode.com/problems/strongly-connected-component-ii011617	Best Tutorial link	Article link	click to view
	Number of Province(Learn how to solve this prob and solve the below in this pattern)	https://www.geeksforgeeks.org/problems/number-of-provinces17	Best Tutorial link	Article link	click to view
	Number of Islands	https://www.geeksforgeeks.org/problems/find-the-number-of-islands17	Best Tutorial link	Article link	click to view
	Number of distinct island	https://www.geeksforgeeks.org/problems/number-of-distinct-islands17	Best Tutorial link	Article link	click to view
	Number of closed island	https://www.geeksforgeeks.org/problems/find-number-of-closed-islands17	Best Tutorial link	Article link	click to view
Bipartite					
	Bipartite graph	https://www.geeksforgeeks.org/problems/bipartite-graph17	Best Tutorial link	Article link	click to view
	M-colouring	https://leetcode.com/problems/m-coloring-problem-158711562017	Best Tutorial link	Article link	click to view
Shortest Path					
	Find shortest path in UG(Once you learn this, try to solve other probs in this pattern by yourself)	https://www.codingninja.com/studio/problems/shortest-path-in-an-undirected-graph_3813217	Best Tutorial link	Article link	click to view
	Find shortest path in DAG	https://www.geeksforgeeks.org/problems/shortest-path-in-undirected-graph17page=1&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Dijkstra Algo	https://www.geeksforgeeks.org/problems/implementing-dijkstra-set-1-adjacency-matrix17page=1&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Step by Knight	https://www.geeksforgeeks.org/problems/steps-by-knight592717	Best Tutorial link	Article link	click to view
	Shortest path source to destiny	https://www.geeksforgeeks.org/problems/shortest-source-to-destination-path254417page=1&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Find if path exists	https://www.geeksforgeeks.org/problems/find-whether-path-exists21817	Best Tutorial link	Article link	click to view
	Covid spread	https://www.geeksforgeeks.org/problems/covid-spread-14163117	Best Tutorial link	Article link	click to view
	Minimum cost path	https://www.geeksforgeeks.org/problems/minimum-cost-path383317	Best Tutorial link	Article link	click to view
	Word ladder I	https://www.geeksforgeeks.org/problems/word-ladder17	Best Tutorial link	Article link	click to view
	Word ladder II	https://www.geeksforgeeks.org/problems/word-ladder-ii17	Best Tutorial link	Article link	click to view
	Floyd warshall algo	https://www.geeksforgeeks.org/problems/implementing-floyd-warshall0417page=1&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Bellmanford algo(imp - Will be used for negative cycle)	https://www.geeksforgeeks.org/problems/distance-from-the-source-bellman-ford-algo1117page=2&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
Multi Source					
	Flood fill	https://www.geeksforgeeks.org/problems/flood-fill-algorithm186617	Best Tutorial link	Article link	click to view
	Replace O's withX(You can be solved easily in this pattern once you learnt flood fill)	https://www.geeksforgeeks.org/problems/replace-o-with-x005217	Best Tutorial link	Article link	click to view
	Unit area of largest region of 1s	https://www.geeksforgeeks.org/problems/largest-region-of-1s-158711562117page=2&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Rotten Oranges	https://www.geeksforgeeks.org/problems/rotten-oranges203617	Best Tutorial link	Article link	click to view
Topological sort					
	Topological sort algo(Learning this algo, will make you solve all the probs in this pattern)	https://www.geeksforgeeks.org/problems/topological-sort17	Best Tutorial link	Article link	click to view
	Prerequisite tasks	https://www.geeksforgeeks.org/problems/toposort-hacker17	Best Tutorial link	Article link	click to view
	Course schedule I	https://www.geeksforgeeks.org/problems/course-schedule-ii17	Best Tutorial link	Article link	click to view
	Course schedule II	https://leetcode.com/problems/course-schedule-ii	Best Tutorial link	Article link	click to view
	Eventual safe states	https://www.geeksforgeeks.org/problems/safe-states17	Best Tutorial link	Article link	click to view
	Alien dictionary	https://www.geeksforgeeks.org/problems/alien-dictionary17	Best Tutorial link	Article link	click to view
Minimum Spanning Tree					
	Minimum spanning tree(Once you learn this, then you will be able to solve the probs in this pattern by yourself)	https://www.geeksforgeeks.org/problems/minimum-spanning-tree17	Best Tutorial link	Article link	click to view
	Kruskals algo	https://www.codingninja.com/studio/problems/kruskal-s-algorithm_6350	Best Tutorial link	Article link	click to view
	Minimum cost to connect cities	https://leetcode.com/problems/connecting-cities-with-minimum-cost	Best Tutorial link	Article link	click to view
	Minimum cost to connect all points	https://leetcode.com/problems/min-cost-to-connect-all-points	Best Tutorial link	Article link	click to view
	Optimize water distribution	https://leetcode.com/problems/optimize-water-distribution-in-a-village	Best Tutorial link	Article link	click to view
Disjoint set					
	Learn the disjoint set Algo	https://leetcode.com/problems/number-of-operations-to-make-network-connected	Best Tutorial link	Article link	click to view
	Union by rank, path compression(Super imp, dont skip)	https://www.geeksforgeeks.org/problems/minimum-swaps17	Best Tutorial link	Article link	click to view
	Networks connected	https://www.geeksforgeeks.org/problems/minimum-swaps17	Best Tutorial link	Article link	click to view
	Minimum swaps to sort	https://www.geeksforgeeks.org/problems/santa-banta281417	Best Tutorial link	Article link	click to view
	Santa Banta	https://www.geeksforgeeks.org/problems/santa-banta281417	Best Tutorial link	Article link	click to view
	Number of pairs	https://www.geeksforgeeks.org/problems/number-of-pairs-16453686517	Best Tutorial link	Article link	click to view
	Number of Island II	https://leetcode.com/problems/number-of-islands-ii	Best Tutorial link	Article link	click to view
	Making a large island	https://leetcode.com/problems/making-a-large-island	Best Tutorial link	Article link	click to view
Must solve imp algos					
	Bridges in graph	https://www.geeksforgeeks.org/problems/bridge-edge-in-graph17	Best Tutorial link	Article link	click to view
	Articulation point	https://www.geeksforgeeks.org/problems/articulation-point-117	Best Tutorial link	Article link	click to view
	Critical connection	https://www.geeksforgeeks.org/problems/critical-connections17	Best Tutorial link	Article link	click to view
	Kosaraju algo (Strongly connected component algo)	https://www.geeksforgeeks.org/problems/strongly-connected-components-kosaraju-algo17page=2&category=Graph&sortBy=submissions	Best Tutorial link	Article link	click to view
	Word boggle	https://www.geeksforgeeks.org/problems/word-boggle154317	Best Tutorial link	Article link	click to view
	Word boggle II	https://www.geeksforgeeks.org/problems/word-boggle-ii-14163117	Best Tutorial link	Article link	click to view
Greedy - Technique					
Basics and must solves					
	Minimum number of jumps	https://www.geeksforgeeks.org/problems/minimum-number-of-jumps-158711562117page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Minimum operations	https://www.geeksforgeeks.org/problems/minimum-operations504417	Best Tutorial link	Article link	click to view
	Minimize the sum of product	https://www.geeksforgeeks.org/problems/minimize-the-sum-of-product152617page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Largest number possible	https://www.geeksforgeeks.org/problems/largest-number-possible502817	Best Tutorial link	Article link	click to view
	Lemonade change	https://www.geeksforgeeks.org/problems/lemonade-change17	Best Tutorial link	Article link	click to view
	Activity selection prob(Super imp)	https://www.geeksforgeeks.org/problems/activity-selection-158711562012	Best Tutorial link	Article link	click to view
	N meetings in a room(Super imp)	https://www.geeksforgeeks.org/problems/n-meetings-in-a-room-158711562117page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Minimum platforms	https://www.geeksforgeeks.org/problems/minimum-platforms-158711562117page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Minimize the height	https://www.geeksforgeeks.org/problems/minimize-the-heights-ii17	Best Tutorial link	Article link	click to view
	Minimum number of coins using greedy(This can be solved using naive, DP also but make sure to use greedy here)	https://www.geeksforgeeks.org/problems/minimum-number-of-coins42617	Best Tutorial link	Article link	click to view
	Job sequencing prob	https://www.geeksforgeeks.org/problems/job-sequencing-problem-158711562117page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Fractional knapsack	https://www.geeksforgeeks.org/problems/fractional-knapsack-158711562117page=1&category=Greedy&sortBy=submissions	Best Tutorial link	Article link	click to view
	Jump game	https://www.geeksforgeeks.org/problems/jump-game-ii	Best Tutorial link	Article link	click to view

[illegible]

	Find median from data stream Sliding window median Maximum capital/PO	https://www.geeksforgeeks.org/problems/find-median-in-a-stream-168711560/1?page=1&category=top&sortBy=submissions https://leetcode.com/problems/sliding-window-median/ https://leetcode.com/problems/ipo	Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view Article link click to view
Minimum number pattern	Minimum cost to connect ropes Meeting room II Minimum cost to hire k workers Minimum num of CPU Minimum num of refueling stops	https://leetcode.com/problems/minimum-cost-to-connect-ropes-168711560/ https://leetcode.com/problems/meeting-rooms-ii https://leetcode.com/problems/minimum-cost-to-hire-k-workers/ https://leetcode.com/problems/task-scheduler/ https://leetcode.com/problems/minimum-number-of-refueling-stops/	Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view Article link click to view Article link click to view Article link click to view
Trie - Data structure				
Basic and must solve				
	Implement Trie from scratch Word break (Do solve it using trie, though you had solved this already) Longest string with all prefixes	https://www.codingninjas.com/study/problems/implement-trie_631356 https://www.geeksforgeeks.org/problems/word-break-trie-141631/1?utm_source=geeksforgeeks&utm_medium=Article&utm_campaign=bottom_40_ch_4n_Article https://leetcode.com/problems/longest-common-prefix/	Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view Article link click to view
	Maximum XOR of two numbers in array	https://leetcode.com/problems/maximum-xor-of-two-numbers-in-an-array-1/ https://www.geeksforgeeks&utm_medium=Article&utm_campaign=bottom_40_ch_4n_Article	Best Tutorial link - click to view	Article link click to view
	Unique rows in boolean matrix Prefix match with other strings	https://www.geeksforgeeks.org/problems/unique-rows-in-boolean-matrix/1?utm_source=geeksforgeeks&utm_medium=Article&utm_campaign=bottom_40_ch_4n_Article https://www.geeksforgeeks.org/problems/prefix-match-with-other-strings/1	Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view
String				
Must solve and Algos specific to string				
	Implement Atoi Count and say	https://www.geeksforgeeks.org/problems/implement-atoi-1 https://leetcode.com/problems/count-and-say/ https://www.geeksforgeeks.org/problems/count-the-reversals/40/1?utm_source=geeksforgeeks&utm_medium=Article&utm_campaign=bottom_40_ch_4n_Article	Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view
	Minimum bracket reversals	https://leetcode.com/problems/minimum-bracket-reversals/	Best Tutorial link - click to view	Article link click to view
	Rabin karp algo (Pattern searching, super imp, this was infact asked in one of my interview)	https://practice.geeksforgeeks.org/problems/search-pattern-rabin-karp-algorithm-1115634/ https://www.codingninjas.com/study/problems/boyer-moore-algorithm-for-pattern-searching_1115634	Best Tutorial link - click to view	Article link click to view
	Boyer moor algo (Pattern searching) KMP algo (Longest prefix suffix, super imp) Longest happy prefix	https://practice.geeksforgeeks.org/problems/longest-prefix-suffix/527/ https://www.geeksforgeeks.org/longest-prefix-suffix/	Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view
	Remove all adjacent duplicates Hashing in strings Print all anagrams	https://www.geeksforgeeks.org/problems/remove-all-adjacent-duplicates-in-string/ https://www.geeksforgeeks.org/practice-problems-on-hashing/ https://leetcode.com/problems/group-anagrams/	Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view Article link click to view
	Z - Function Shortest palindrome Circle of strings	https://practice.geeksforgeeks.org/problems/search-pattern-z-algorithm/1115634/ Shortest Palindrome - LeetCode https://www.geeksforgeeks.org/problems/circle-of-strings/5301/ https://www.geeksforgeeks.org/problems/maximum-number-to-integer/320112?utm_source=geeksforgeeks&utm_medium=Article&utm_campaign=bottom_40_ch_4n_Article	Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view Best Tutorial link - click to view	Article link click to view Article link click to view Article link click to view Article link click to view
	Roman numerals to decimals	https://leetcode.com/problems/roman-to-integer/	Best Tutorial link - click to view	Article link click to view
There are couple of more topics, bit manipulation, segment trees and AVL trees which has limited number of probs, so do check that out if you have good amount of time still left				
Checkout this for bit tricks - https://leetcode.com/discuss/general-discussion/1973270/bit-about-bitwise-Operations-Beginner-Intermediate				
Leetcode Article for behavioural rounds	https://leetcode.com/discuss/interview-experience/1532708/tips-for-answering-few-tricky-behavioural-interview-questions			
Leetcode Article for major patterns	https://leetcode.com/discuss/general-discussion/656604/important-and-Useful-links-from-all-over-the-LeetCode			
Resume standard template	https://www.overleaf.com/Articles/ravi-lakshita-resume-cpnrkxboob			
Try to solve atleast 5+ problems per day to master it at the earliest				