1. **Arrays**
2. Find the element that appears once TC=(log n)
3. Longest/count [Subarray with given sum](https://takeuforward.org/data-structure/longest-subarray-with-given-sum-k/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank) TC = O(n) SC = O(n)
4. Find all pairs with a given sum TC = O(n log n) SC = O(n)
5. Next Permutation Tc = O(n)
6. Longest Consecutive Sequence in an Array TC = O(n) SC = O(n)
7. Rotate matrix by 90 degree TC = O(n^2)
8. Spiral matrix TC = O(n\*m)
9. Majority 1/2 and 1/3 TC = O(n)
10. 3 sum
11. 4 sum
12. [Count number of subarrays with given xor K](https://takeuforward.org/data-structure/count-the-number-of-subarrays-with-given-xor-k/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
13. [Merge Overlapping Subintervals](https://takeuforward.org/data-structure/merge-overlapping-sub-intervals/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
14. [Merge two sorted arrays without extra space](https://takeuforward.org/data-structure/merge-two-sorted-arrays-without-extra-space/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
15. [Find the repeating and missing number](https://takeuforward.org/data-structure/find-the-repeating-and-missing-numbers/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
16. [Reverse Pairs](https://takeuforward.org/data-structure/count-reverse-pairs/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
17. [Maximum Product Subarray](https://takeuforward.org/data-structure/maximum-product-subarray-in-an-array/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)

BINARY SEARCH

1. Search in Rotated Sorted Array II Tc = O(log n)
2. Koko Eating Bananas
3. **Median in a row-wise sorted Matrix**
4. [Find kth element of two sorted arrays](https://takeuforward.org/data-structure/k-th-element-of-two-sorted-arrays/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
5. [Aggressive Cows](https://takeuforward.org/data-structure/aggressive-cows-detailed-solution/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)

GRAPH

1. [Cycle Detection in unirected Graph (bfs)](https://takeuforward.org/data-structure/detect-cycle-in-an-undirected-graph-using-bfs/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
2. [Number of Enclaves](https://takeuforward.org/graph/number-of-enclaves/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
3. Number of Distinct Islands
4. Find eventual safe states using dfs
5. Cycle Detection in Directed Graph (DFS) kahn algo
6. Alien dictionary
7. Word ladder – 1(imp)
8. Word ladder – 2(imp)
9. Print Shortest Path - Dijkstra's Algorithm
10. Cheapest flights within k stops
11. Number of ways to arrive at destination
12. Prim’s Algorithm
13. Making a Large Island
14. Most stones removed with same rows or columns

**LinkedList**

1. [Find the starting point in LL](https://takeuforward.org/data-structure/starting-point-of-loop-in-a-linked-list/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank) in O(n) time
2. Segrregate odd and even nodes in LL in O(n) time
3. [Reverse LL in group of given size K](https://takeuforward.org/data-structure/reverse-linked-list-in-groups-of-size-k/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
4. Sort LL
5. Segrregate odd and even nodes in LL
6. [Check if LL is palindrome or not](https://takeuforward.org/data-structure/check-if-given-linked-list-is-plaindrome/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
7. [Rotate a LL](https://takeuforward.org/data-structure/rotate-a-linked-list/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
8. [Clone a Linked List with random and next pointer](https://takeuforward.org/data-structure/clone-linked-list-with-random-and-next-pointer/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
9. [Flattening of LL](https://takeuforward.org/data-structure/flattening-a-linked-list/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
10. Add two numbers

**String**

1. Longest Palindromic Substring O(n^2) and Manacher's Algorithm O(n)

**Recursion**

1. Pow(x, n) in log(n) time
2. Sort a stack using recursion
3. Combination Sum II
4. [Subset Sum-II](https://takeuforward.org/data-structure/subset-ii-print-all-the-unique-subsets/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
5. Permutation in String(leetcode)
6. N-Queens
7. Sudoko Solver
8. Permutation Sequence

**DP**

1. **Minimum/Maximum Falling Path Sum**
2. **3-d DP : Ninja and his friends**
3. Partition Set Into 2 Subsets With Min Absolute Sum Diff (DP- 16)
4. space optimization using only 1 row (i.e. only using prev) 0/1 knapsack
5. [Minimum insertions to make string palindrome | DP-29](https://takeuforward.org/data-structure/minimum-insertions-to-make-string-palindrome-dp-29/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
6. [Minimum Insertions/Deletions to Convert String | (DP- 30)](https://takeuforward.org/data-structure/minimum-insertions-deletions-to-convert-string-dp-30/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
7. [Shortest Common Supersequence | (DP – 31)](https://takeuforward.org/data-structure/shortest-common-supersequence-dp-31/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
8. Distinct Subsequences
9. Edit Distance
10. Wildcard Matching | (DP-34)
11. [Buy and Sell Stocks III|(DP-37)](https://takeuforward.org/data-structure/buy-and-sell-stock-iii-dp-37/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
12. Print Longest Increasing Subsequence
13. Longest Increasing Subsequence binary search
14. Largest Divisible Subset(lis algorithmic approach)
15. [Evaluate Boolean Expression to True|(DP-52)](https://takeuforward.org/dynamic-programming/striver-dp-series-dynamic-programming-problems/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)
16. [Burst Balloons|(DP-51)](https://takeuforward.org/dynamic-programming/striver-dp-series-dynamic-programming-problems/" \t "https://takeuforward.org/strivers-a2z-dsa-course/strivers-a2z-dsa-course-sheet-2/_blank)

STACK(imp)

1. Largest Rectangle in Histogram
2. Sum of subarray minimum
3. Trapping Rainwater
4. Sum of Subarray Ranges
5. Remove K Digits

BINARY TREES

1. Print all the Nodes at a distance of K in a Binary Tree
2. Convert an arbitrary Binary Tree to one that holds the Children Sum Property in its nodes
3. Count Complete Tree Nodes in log(n)
4. Delete Node in a BST
5. Merge BSTs to Create Single BST
6. Recover Binary Search Tree
7. Largest BST
8. Morris Traversal

Trie

1. Maximum XOR of two numbers in an array
2. Maximum XOR With an Element From Array

Bit Manuplation

1. Count total set bits
2. Division without using multiplication, division and mod operator
3. Sieve of Eratosthenes
4. Segmented Sieve