Data Structures and Algorithms

https://leetcode.com/discuss/general-discussion/665604/Important-and-Useful-links-from-all-over-the-LeetCode

Linked Lists

1. Delete-linked-list
2. Sorted-insert-in-linked-list
3. Sort Linked lists
4. Split-nodes-given-linked-list-front-back-halves
5. Move-even-nodes-to-end-of-list-in-reverse-order
6. **Remove Duplicates from Sorted List II**
7. Remove-duplicates-sorted-linked-list
8. **Merge-sort-singly-linked-list**
9. Merge sorted linked lists(in place O(1) space)(see gfg sol)
10. Intersection-two-given-sorted-linked-lists
11. Reverse-linked-list (Iterative & Recursive)
12. **Clone Linked List**(constant space and Extra space)(Extra space revise)
13. **Reverse-every-k-nodes-of-a-linked-list**
14. find-kth-node-from-the-end-linked-list(2 pointer approach)
15. Delete-every-n-nodes-linked-list-skipping-m-nodes
16. rearrange-linked-list-specific-manner-linear-time(Reorder List in constant space and extra space)
17. Check-if-linked-list-is-palindrome(Recursive approach)
18. **Detect-cycle-linked-list-floyd's-cycle-detection-algorithm remove cycle find length of cycle**
19. Sort-linked-list-containing-0s-1s-2s
20. Stack-implementation-using-linked-list
21. **Queue-implementation-using-linked-list**(check this)
22. Remove-duplicates-linked-list
23. **Odd Even Linked lists**
24. Xor-linked-list
25. Mergetwo-bsts-into-doubly-linked-list-sorted-order

26. Add-single-digit-number-linked-list
27. Sort-doubly-linked-list-merge-sort(similar to merge sort in singly linked list)
28. **Flatten-linked-list(Important)**
29. Flatten-multi level-Doubly-linked-list(Leetcode)
30. **Update-random-pointer-linked-list-node-maximum-node**
31. Convert-binary-tree-into-doubly-linked-list
32. Reverse-specified-portion-linked-list
33. Binary Tree to CDLL
34. **Delete without head pointer(tricky)**
35. Absolute List Sorting
36. Union of Two Linked Lists
37. **Leaves to DLL**
38. Multiply two linked lists
39. Subtraction in Linked List
40. Next Greater Element in Linked list
41. Partition List
42. Insertion sort list
43. **Intersection of Y shaped linked lists**
44. Arrange Consonants and Vowels
45. Linked List matrix

Binary Trees

https://leetcode.com/discuss/study-guide/1337373/Tree-question-pattern-oror2021-placement

1. Construct Height-balanced-bst-from-unbalanced-bst
2. Height of binary tree
3. Mirror tree
4. Balanced Binary Tree O(n) approach

5. Vertical Order Traversal of a Binary Tree(leetcode wala)
6. Count leaves
7. Inorder,preorder,postorder(recursive and iterative)
8. Convert Ternary Expression to Binary Tree
9. Construct tree from preorder traversal
10. K distance from root
11. Morris Traversal
12. Sum ofBT
13. Max level sum in BT
14. Min depth of BT
15. Right,left,bottom,top view
16. Odd even level difference
17. **Clone a Binary Tree**(using map and no aux space)
18. Diagonal sum in Binary tree
19. Make BT from linked list(check)
20. Maximum Node level
21. Transform to sum tree
22. **Check if 2 trees are isomorphic(amazon)**
23. Count number of subtrees having given sum(path sum 3)
24. **Diameter of BT**
25. BT to BST
26. Tree from postorder and inorder,inorder and preorder
27. **Max sum path b/w 2 leaf nodes**(interview question)
28. **Zig zag and levelorder,Boundary traversal(IMP)**
29. Preorder to postorder
30. Sum of leaf nodes at min level
31. Root to leaf paths
32. Serialize and deserialize BT
33. **Construct BT from parent array**
34. Extreme nodes in alternate order
35. **Connect nodes at same level(constant space leetcode sol)(last)**
36. Nodes at given distance in BT
37. Spiral traversal

38. Longest path values binary tree(Amazon)
39. Check if 2 nodes are cousins(leetcode version)
40. Check if subtree(O(n) using KMP)
41. Root to leaf path sum
42. Max diff between node and ancestor
43. Array to BST
44. Kth ancestor of a binary tree(last)
45. **Largest BST(IMP)https://www.youtube.com/watch?v=ffKw8voLH4I&ab_channel=KashishMehndiratta**
46. Print all nodes that don’t have siblings
47. **Nodes at given distance in binary tree**
48. Inorder traversal of cartesian tree(Interviewbit)
49. **Burning Tree(Amazon)**
50. **Flatten binary tree to linked list**
51. **House Robber 3(leetcode)**
52. **Convert BST to max and min Heap**
53. **Generate tree from level order traversal(prateek narang copy)**
54. **Diagonal traversal of Binary tree (using map and queue)**
55. Binary Tree Vertical Order Traversal
56. **Max distance between 2 nodes in n-array tree**

LCA Variations(Tree)

1. Find LCA in Binary Tree(Very important check video)
2. **Number of turns(hard)(vvimp)**
3. Min distance between 2 given nodes

Binary Search Tree

Note

The binary search tree is a skewed binary search tree. Height of the binary search tree becomes n. So, Time complexity of BST Operations = O(n).

1. Check for BST
2. **Unique binary search tree II**
3. **Delete a node from BST**
4. Insert a node in BST
5. Count BST nodes that lie in given range
6. Print BST elements in given range
7. Find closest element in BST
8. Inorder successor in BST(Amazon)
9. **Find pair with given target in BST**(in O(h) space and O(n) time)
10. Add all greater values to every node of BST
11. **Fixing 2 nodes in BST(gfg video)**
12. **Merge 2 BST**(limited space and extra space) use stack iterative inorder
13. Predecessor and successor
14. **Remove BST keys outside the given range**
15. Print common nodes in BST
16. Find median of BST in O(n) time and O(1) space
17. Morris Inorder traversal
18. Delete nodes greater than k
19. Closest neighbor in BST
20. **Serialize and deserialize BST**(diff from Binary tree serialization)
21. **AVL tree**
22. Print leaf nodes from preorder traversal of BST
23. **Construct BST from postorder**

Tries

1. Implement Magic Dictionary
2. Text recommendation
3. Maximum XOR of Two Numbers in an Array

Recursion And Backtracking

1. Josephus problem(gaurav sen video)
2. No of paths

3. Count no of subtrees having given sum
4. Express as sum of power of natural numbers(Important)
5. Handshakes
6. **Solve sudoku**
7. Tower of hanoi
8. **Kth symbol in grammar(observation)**
9. M coloring(Graphs)
10. **Permutation with spaces**(Important)(amazon)
11. **Largest number in K swaps(GFG practice video YT)**
12. Rat in a maze
13. Power of numbers
14. Subsets
15. Implement power function
16. Combination sum part 2
17. Generate IP addresses
18. N-queen
19. Permutation of given string
20. No of paths in a matrix with k coins
21. Tic tac toe
22. Sum string
23. Min number of steps to reach a given number
24. Partition array to k subsets
25. Gray code(Backtracking solution using bitset(read about bitset from gfg))
26. **Kth permutation sequence**(vvimp)(IB very well exp in techdose also in copy)(Amazon)
27. Letter phone(Amazon)
28. **Sort a stack**
29. Palindrome partitioning(vvimp)(Amazon)
30. Generate all parentheses 2
31. Find position(math problem see the sol)
32. Letter Case Permutation
33. **https://practice.geeksforgeeks.org/problems/word-break-part-23249/1**

Heaps

1. Merge K sorted arrays ->(3 approaches (BF,mergeSort,heap))
2. Rearrange characters
3. Heap sort
4. Min cost to connect ropes
5. K largest elements
6. Merge k sorted linked lists ->(3 approaches (BF,mergeSort,heap))
7. **Kth largest element in a stream**
8. **Huffman encoding**
9. **Find median in a stream(vvimp)**
10. Binary heap operations
11. K closest points to origin
12. Cheapest flight within K stops(IMP)
13. LRU cache
14. **Minimize string value**
15. The Skyline Problem
16. **Nearly sorted array**
17. **Smallest Range Covering Elements from K Lists**
18. **Furthest Building You Can Reach**

Strings

1. Match specific pattern
2. Decode the pattern(last Important)
3. Binary string
4. Find largest word in dictionary
5. Count subsequences of type a^ib^jc^k
6. Number following a pattern(read)
7. Remove “b” and ‘ac” from a given string
8. Reverse each word in given string
9. Implement strstr
10. Design a tiny URL or URL shortener

11. **Longest even length substring**(good logical question)
12. Group anagrams together
13. **Convert roman to numerical and numerical to roman**
14. Anagram palindrome
15. Check if a string is rotated by 2 places
16. Winner of an election
17. Check for subsequence
18. **Min no of flips**(good question)
19. **Factorials of large number(very important)**
20. Longest palindromic substring
21. Longest prefix suffix
22. **String formation from substring**(Important)(lps variation)
23. Divisible by 8
24. **Add binary strings**
25. **Longest palindromic substring(O(n) manacher algorithm)**
26. Longest common prefix
27. Implement ATOI
28. Run encoding
29. **Generate IP addresses**
30. **Column name from given column number**
31. Multiply 2 strings(important)(last)
32. Compare version numbers
33. Decode a given pattern in two ways
34. **Replace by X**
35. Find all distinct palindromic sub-strings of a given string

Dynamic Programming

Links-https://leetcode.com/discuss/general-discussion/1000929/solved-all-dynamic-programming-dp-problems-in-7-months

https://leetcode.com/discuss/general-discussion/458695/dynamic-programming-patterns

Knapsack

1. Subset sum
2. Equal sum partition
3. Count of subset sum
4. Min subset sum diff(difficult one)
5. **Target sum**
6. Rod cutting
7. Maximize The Cut Segments
8. Coin change-1
9. **Coin change -2**
10. **Perfect squares**
11. **Min cost for tickets(amazon microsoft) tricky**
12. 3-partition problem(similar to equal sum partition)
13. Last Stone Weight II(same as minimum subset sum diff)
14. Flip Array
15. Minimize the Difference Between Target and Chosen Elements

LCS

1. Longest common subsequence (printing lcs)space optimized solution
2. Lcs of 3 strings
3. Longest common substring
4. **Shortest common supersequence**
5. Min count of insertion and del a->b
6. Largest repeating subsequence
7. **Len of largest subsequence of which is a substring in b**
8. Longest palindromic subsequence
9. Longest palindromic substring
10. Min no of deletion in a string to make it palindrome
11. **Min ASCII delete sum for 2 strings**
12. **Distinct subsequences** (More like a 0-1 knapsack problem)
13. Maximize Palindrome Length From Subsequences

LIS

1. Maximum increasing subsequence
2. **Largest divisible subset**

3. **Arithmetic Slices 1 &2**
4. Maximum length chain
5. Print LIS
6. Largest string chain
7. Number of Longest Increasing Subsequence
8. **Box stacking**
9. Russian Doll Envelopes
   https://leetcode.com/problems/russian-doll-envelopes/discuss/633743/C%2B%2B-Easy-Custom-BS-O(NlogN)-and-O(N2)-solutions

DP on strings

1. **Interleaving strings(V imp)**
2. **Distinct subsequences I and II**
3. **Wildcard pattern matching**(hints see leetcode)
4. **Word break I and II**
5. **Edit distance**
6. Count subsequences of type a^i, b^j, c^k(Amazon specific)(pepcoding softy copy)
7. **Consecutive 1's not allowed**
8. **Regular expression matching(written in copy)**
   link https://www.youtube.com/watch?v=Mu_TvHcg5el&t=8s
9. **Longest valid Parentheses(Google)**

DP on grid

1. **Dungeon game**
2. No of paths in a grid with k coins
3. Unique path II
4. Maximum path in triangle
5. Largest area rectangular sub-matrix with equal number of 1's and 0's
6. Largest rectangular submatrix whose sum is 0
7. Range sum query
8. Maximal square
9. Path in Matrix
10. Find sub-matrix with the given sum(variation of range sum query)

11. **Maximum Sum Rectangle**
12. Maximum sum in a 2 x n grid such that no two elements are adjacent

Matrix chain multiplication

1. Burst balloon
2. **MCM**(printing brackets microsoft)
3. **Evaluate exp to true**
4. **Palindrome partitioning**
5. **Palindromic Partitioning II(O(n*n) Approach)**
6. **Egg dropping**
7. **Merge Elements(De shaw)**
8. **Find optimal cost to construct BST**

Aux Dp

1. House robber 1 and 2
2. **Ugly number 2**
3. **Product of last k numbers(google) leetcode**
4. **K concatenation maximum sum(leetcode kadane variant explanation in softy copy)**
5. **Decode message(Amazon)**
6. **Dice throw(gfg)**
7. **Out of Boundary Paths**
8. **Stone game series leetcode(Important)**
9. **Optimal strategy of game(Important question)(Amazon)**
10. Count ways of tiling m*n grid with 1*m tiles
11. **Jump game 1 and 2 (**jump game 2 O(n) time and constant space)
12. **Frog Jump**
13. **Longest Arithmetic Progression(using 2 pointers and dp)**
14. Probability of Knight
15. **Reach a given score**
16. Maximum profit by buying and selling a share at most twice(vimp)
17. Stock problem (all variations)K transaction bottom up sol is needed

18. **Maximum profit by buying and selling share at most k times(IB and explanation in notes red copy)**
19. **Special Keyboard**
20. 2 Keys Keyboard(UC copy)
21. **Water Overflow**(Amazon)
22. Different Ways to Add Parentheses(leetcode)
23. **Friends pairing**(check)
24. **Minimum Number of Refueling Stops**

DP on Trees

1. **House robber 3**
2. **Diameter of binary tree**
3. **Max path from any node to any**
4. **Recursion**

Catalan Numbers

1. **Catalan Number**
2. Count no of BST with n nodes or unique BST(copy)

Other DP Problems

1. Count ways to N'th stair(Order doesn't matter)(Amazon)
2. Painters partition
3. Tiling With Dominos(Interviewbit)
4. Mobile numeric keypad

7.Max Product Subarray

Graph

Links-https://leetcode.com/discuss/general-discussion/655708/Graph-For-Beginners-Problems-or-Pattern-or-Sample-Solutions
Link-https://leetcode.com/list/x1vj23fh/
Link-https://leetcode.com/discuss/study-guide/1326900/graph-algorithms-problems-to-practice
Link-https://leetcode.com/discuss/interview-question/753236/List-of-graph-algorithms-for-coding-interview

1. X total shapes

2. Minimum steps to reach end from start by performing multiplication and mod operations with array elements(Imp question bfs)
3. Unit area of largest region of 1s
4. Strongly connected components
5. Flood fill algo
6. Water Flow(Google)
7. **Accounts Merge**
8. DFS of graph
9. **Longest Increasing Path in a Matrix(DFS +DP)(explanation in copy)(check)**
10. Min spanning tree
11. **Find Eventual Safe States(Imp)**
12. Minimum Height Trees(check)
13. Find whether a path exist
14. **check-given-graph-tree(Amazon)**
15. **Implement dijkstra**
16. **Evaluate division(important check before interview)**
17. **Alien dictionary(Amazon)(important)**
18. **Rotten oranges**(important)
19. Floyd warshall
20. Snake and ladder
21. Steps by knight
22. BFS of graph
23. Min cost path(dijkstra check)
24. Hamiltonian path
25. **Bipartite Graph(use bfs and coloring)**
26. Topological sorting
27. Find no of islands
28. Replace Os with X’s
29. **Detect cycle in an undirected graph(using dfs also)**
30. Detect cycle in directed graph(using coloring,Kahn algorithm)
31. **Bridge edge in a graph**
32. **Tarjan algo**

33. Most Stones Removed with Same Row or Column
34. Kahn Algorithm
35. Word boggle(same as word search II leetcode)
36. Friend circles
37. Course schedule 1,2,3,4
38. Critical routers
39. 0,1 matrix
40. Min cost to connect all cities
41. Word ladder
42. Greedy coloring of graphs
43. **Word search 2**
44. Remove invalid parentheses
45. Network delay time
46. **Clone graph**
47. **Largest Distance between nodes of a Tree(IB)**
48. Smallest Multiple With 0 and 1
49. Valid Path
50. Level Order
51. Convert Sorted List to Binary Search Tree
52. Maximum edge removal from tree to make even forest
53. Min swaps to sort an array

Binary Search

1. Square Root(amazon)
2. Find the highest number
3. Counting elements in two arrays(Amazon)
4. Nth root of a number(hard)(striver)
5. Frequency Count
6. **Painter’s partition**
7. First and last occurrence of X
8. Matrix Median
9. **Allocate books**

10. Rotated array search

11. **Search in a row wise and colwise sorted matrix(similar to searching an element in an array)(Amazon)**

12. Sorted insert position

13. Aggressive cows

14. **Find min in rotated sorted array 1&2**

15. **Search in Rotated Sorted Array II(Imp)**

16. **Find Peak Element**(VIMP)

17. **Find the element that appears once in a sorted array** (IMP)(Amazon)

18. **Kth Smallest Element in a Sorted Matrix(variation of binary search)**

19. **Find first occurrence of 1 in binary sorted infinite array(Interview question)**

20. Kth Smallest Number in Multiplication Table

21. Find Smallest Letter Greater Than Target

22. **Find position of an element in a sorted array of infinite numbers**(Amazon)

23. **Rotation**

24. Floor in a Sorted Array

25. K closest element(Leetcode) Errichto video solution(pepcoding)

26. Minimum Number of Days to Make m Bouquets

27. Find the Smallest Divisor Given a Threshold

28. Divide Chocolate(leetcode premium)

29. Capacity To Ship Packages In N Days

30. Minimize Max Distance to Gas Station(leetcode premium)

31. Split Array Largest Sum

32. Longest Duplicate Substring

2 Pointers

1. **Binary Array sorting**
2. Find triplets with zero sum
3. **3 sum Zero(interviewbit)**
4. **Count triplets with sum smaller than x**
5. **3 Sum closest(interviewbit)**
6. Pair with given sum in sorted array
7. **Two numbers with sum closest to zero**
8. Four elements
9. **Sort colors(3-way Partitioning gfg)(Amazon 3 way partitioning)**
10. **Partition labels**
11. Squares of a sorted array
12. **Given a sorted and rotated array, find if there is a pair with a given sum-https://drive.google.com/drive/u/0/folders/1-2cO0q7AaYh7EwfyHLIeua37LEUYfVSA**
13. **Trapping rain water(Important striver sol)(last)**
14. **Container with most water**
15. Maximum continuous series of 1 (i) leetcode
16. Product of subarray less than k
17. **Pair with given difference**
18. **Array 3 pointers**
19. **Remove Duplicates from Sorted Array II**
20. **K-diff Pairs in an Array**

Stack and Queue

https://leetcode.com/list/504xdrcr/

1. Nearest Smaller Element
2. **Largest Rectangle in Histogram**
3. **First non-repeating character in a stream of characters(brute force and deque)**
4. Simplify Directory Path(microsoft)

5. Redundant Braces
6. Sum of Subarray Minimums(solve it)(last)
7. Score of parentheses(last check)
8. **Get Min ele in O(1) time and space complexity.(Hard)**
9. **Maximum Frequency Stack(Important)**
10. **Clone a stack without extra space(linked list implementation and recursion)**
11. **Longest valid Parentheses(hard)(last)**
12. Print Bracket Number
13. Next greater element,next smaller element
14. **Online stock Span**
15. Celebrity Problem(Amazon)
16. **Maximal Rectangle(very important check)**
17. **Delete middle element of a stack**
18. Sort Stack(**using recursion** and one temp stack)
19. Reverse a stack(Imp)
20. Reverse First K elements of Queue
21. Queue Reversal
22. Asteroid collision(important for amazon)(best explanation in leetcode striver soln)
23. Implement two stacks in an array
24. Infix to postfix postfix to infix
25. **132 pattern(solve)**
26. Decode string
27. Maximum Subarray Min-Product
28. Longest Valid Parentheses

HashMap

1. 2 Sum

2. **4 Sum**(Brute force using 3 loops using sorting and binary search)**(optimized approach using 2 pointers and 2 loop and O(1) space take you forward video)**
3. Largest Continuous Sequence Zero Sum
4. **Points on the Straight Line(Amazon)**
5. **K Anagrams(pepcoding)**
6. **Fraction**
7. **Anagrams**
8. **Copy List**
9. **Longest Substring Without Repeat(see again from takeu forward gfg)**
10. **Window String**
11. Subarray with equal occurrences
12. Pairs With Given Xor
13. **Subarray with given XOR**
14. Subarray with B odd numbers
15. **Longest Subarray Length**
16. First Repeating element
17. **Longest consecutive subsequence**(Analyze time complexity)
18. Contiguous array in leetcode of 0 and 1
19. **Insert Delete Get Random O(1)**
20. Match Specific Pattern
21. **Count distinct rows in binary matrix**
22. Design hashset(leetcode)
23. Relative sorting
24. Copy List with Random Pointer

25. Isomorphic Strings(we can better utilize space using vector<int,256>)
26. Word Pattern
27. Insert Delete GetRandom O(1) - Duplicates allowed
28. 4 Sum II
29. Binary Subarrays With Sum
30. check-if-array-pairs-are-divisible-by-k
31. Subarray Sums Divisible by K
32. Minimum indexed character
33. Count pairs with given sum
34. Anagram Palindrome
35. Winner of an election
36. **Swapping pairs make sum equal(Amazon)**
37. **Count distinct pairs with difference k**
38. Non-Repeating Element
39. Longest Subarray with Sum K
40. Array Subset of another array
41. Smallest distinct window
42. Array Pair Sum Divisibility Problem
43. Common elements(microsoft)
44. Fruit Into Baskets
45. **Reconstruct Itinerary**
46. **Longest K unique characters substring**
47. **Longest-substring-with-at-most-k-distinct-characters**
48. **Check if array pairs are divisible by k**
49. Find anagrams mapping

50. Group shifted Most Stones Removed with Same Row or Column string

51. **Subarrays with K Different Integers(Important)solution in copy**

Array And Math

Add some questions from PrepInsta

1. **Minimum number of increment-other operations to make all array elements equal.**
2. Majority Element(Using Moore's Voting Algorithm)
3. **Next Permutation**
4. Hotel Bookings Possible
5. **Counting Sort**
6. Find Permutation
7. **Maximum Unsorted Subarray**
8. Max Distance
9. Pascal triangle
10. Maximum Absolute Difference
11. Maximum Sum Triplet(similar to sorted subsequence of size 3)
12. Power of 2 numbers
13. **Excel column number**
14. **Excel column title**
15. **Inversion count**
16. Make Matrix beautiful(mathematical)
17. **3 way partitioning(dutch national flag)**
18. **Find duplicates in O(1) space and O(n) time**
19. **Count-of-subarrays-having-exactly-k-perfect-square-numbers**
20. **Next Greater Number with set of digits(Next permutation on IB)**

21. **Next Palindrome**
22. **Next Greater Even Number**
23. **Rank Permutations**
24. **Merge 2 sorted arrays using O(1) space(GAP algo)**
25. **Missing smallest positive integer O(1) space**
26. **Second largest element**
27. **Set matrix zeros**
28. **Digit Multiplier(Mathematical)**
29. **Print matrix in spiral form**
30. **Count of Smaller Numbers After Self**
31.**N trailing zeros in factorials(mathematical)**
32. Divide the array into increasing and decreasing subsequence w/o changing order
33. **Diagonal Traversal of matrix**
34. **Diagonal traversal of matrix 2(using map and other using BFS)**
35. Design Tic tac toe(copy)
36. Find missing Number in 2 sorted arrays(Amazon)
37. **Rotate array by k** (constant space and extra space both)
38. Program for Goldbach's Conjecture (Two Primes with given Sum)
39. Wave Array(without sorting coding blocks)
40. **Rearrange an array with O(1) extra space(mathematical)**
41.Rotate Array
42. **Kth smallest element**(O(1) space)(Quick select Algo)
43. Maximum in Struct Array
44. Max value after m range operation(factset)
45. Container With Most Water
46. **Minimum Energy**
47. **Pairs which are Divisible by 4**(mathematical)
48. Index Of an Extra Element
49. **Product array puzzle**
50. Max sum in the configuration
51. **Equilibrium Point(check for O(1) space sol)**
52. Maximum Difference

53. Buildings receiving sunlight
54. Smallest subarray with sum greater than x
55. **Frequencies of Limited Range Array Elements**
56. **Sum of Lengths of Non-Overlapping SubArrays**
57. Left out candies
58. Boolean Matrix Problem
59. Sorted subsequence of size 3
60. **Max Circular Subarray Sum(Kadane)**
61.Sum of Middle Elements of two sorted arrays
62. **Minimum distance between two numbers**
63. Missing number in array
64. Maximize The Array
65. Factorial
66. **Multiply two polynomials**
67. Lucky Numbers
68. Sum of Query II
69. Finding Position
70. Polynomial Addition
71.Faithful Numbers(mathematical)
72. Palindrome numbers
73. Leaders in an array
74. Minimum difference between min and Max element of an array after 3 moves
75. Minimum steps to get desired array
76. Squares in N*N Chessboard
77.Minimum operations to make array elements equal
78. Count Sorted Vowel Strings
79. Angle Between Hands of a Clock
80. **Arithmetic slices**
81. Minimum Operations to Reduce X to Zero(lead coding)
82. **Rotate function**

Greedy Programming

1. Minimum Number of Arrows to Burst Balloons
2. Bag of tokens
3. **N meetings in one room**
4. Minimum Operations
5. Job Sequencing Problem(last)
6. Activity Selection
7. **Minimum Platforms**(heap approach done & 2 pointers sorting)(last)
8. Fractional Knapsack
9. Minimize the heights
10. **Maximum number of events that can be attended**
11. **Assign Mice to Holes**
12. **Gas Station(last)**
13. **Distribute Candy**
14. **Majority Element(Moore's Voting Algo)(VVIMP)**
15. Highest Product
16. Largest Permutation
17. **Disjoint Intervals**
18. Score After Flipping Matrix
19. Seats
20. Merge Overlapping Intervals

Bit Manipulation

1. Next sparse binary number

Sliding Window

1. **Sliding window maximum(deque) another approach using heap https://leetcode.com/problems/sliding-window-maximum/discuss/1054583/Explanationintuition-with-comments-and-code.or-C%2B%2Bor-priority_queue-approach**
2. **First negative integer in every window of size k(deque)(learn about constant space approach)**
3. Max Consecutive Ones III
4. Books(codeforces)

5. **Largest sum subarray of size at least K**
6. **Find All Anagrams in a String**
7. Count distinct elements in every window
8. **Maximum of minimum for every window size(amazon)**
9. **Min window substrings in S such that it contains all chars of T**
10. Max sum subarray of size k
11. Subarray with 0 sum
12. Largest subarray of 0's and 1's
13. Longest subarray with sum divisible by K
14. Longest Subarray with Sum K
15. Sliding Window Median(IMP)(same as running median)

Interview Corner

1. https://leetcode.com/discuss/interview-question/309656/google-reorder-array-according-to-the-given-indexes
2. https://www.geeksforgeeks.org/maximize-sum-of-k-elements-in-array-by-taking-only-corner-elements/

Top 10 Algos of each Topic GeeksForGeeks

Computer Science Subjects

Prepare from prepinsta

Operating System

1. Compiler
2. Interpreter
3. Loader

4. Linker
5. Process
6. Process Scheduling
7. Paging
8. Segmentation

Networking

1. OSI Model
2. Subnetting
3. Supernetting
4. How internet Works
5. Http vs Https
6. IPV4 vs IPV6
7. Routing Algos
8. TCP/IP
9. Cybersecurity

OOPS and OOPS Design

1. Object
2. Class
3. Inheritance
4. Polymorphism
5. Abstraction
6. Encapsulation

LINUX

1. Inode
2. File Structure
3. Process
4. Basics of Device
5. Priority in Linux
6. Basic Commands
7. Fork
8. Multithreading
9. How OS starts

DBMS and SQL queries

1. SQL
2. Normalization
3. Locking and Concurrency Control
4. File vs DBMS
5. SQL Vs NOSQL
6. Indexing,B tree
7. Transaction
8. ER diagram

System Design

1. Distributed System
2. Scaling
3. CAP theorem
4. Load Balancer
5. Consistent Hashing
6. Microservices
7. API (REST vs SOAP)
8. Sharding
9. Caching & its types
10. NOSQL
11. Messaging Queues

System Design Practice

1. Chat System
2. Networking System
3. Netflix
4. Ticket Booking System
5. Auto Suggestion

Links-https://www.sanfoundry.com/computer-science-questions-answers/
https://drive.google.com/file/d/1UwXA1p7ogih3AF19uulSut-8oiJeL59_/view?usp=sharing (CS Core Interview Imp Topics)