

Data Structures

Topics:

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Linked List:

Singly Linked List:

- | | | |
|----|----|---|
| 1 | 1 | Introduction to Linked List |
| 2 | 2 | Linked List vs Array |
| 3 | 3 | Linked List Insertion |
| 4 | 4 | Linked List Deletion |
| 5 | 5 | A Programmer's approach of looking at Array vs. Linked List |
| 6 | 6 | Find Length of a Linked List (Iterative and Recursive) |
| 7 | 7 | Search an element in a Linked List (Iterative and Recursive) |
| 8 | 8 | How to write C functions that modify head pointer of a Linked List? |
| 9 | 9 | Write a function to get Nth node in a Linked List |
| 10 | 10 | Given only a pointer to a node to be deleted in a singly linked list, how do you delete it? |
| 11 | 11 | Print the middle of a given linked list |
| 12 | 12 | Nth node from the end of a Linked List |
| 13 | 13 | Write a function to delete a Linked List |
| 14 | 14 | Write a function that counts the number of times a given int occurs in a Linked List |
| 15 | 15 | Reverse a linked list |
| 16 | 16 | Detect loop in a linked list |
| 17 | 17 | Function to check if a singly linked list is palindrome |
| 18 | 18 | Given a linked list which is sorted, how will you insert in sorted way |
| 19 | 19 | Intersection point of two Linked Lists. |
| 20 | 20 | Recursive function to print reverse of a Linked List |
| 21 | 21 | Remove duplicates from a sorted linked list |
| 22 | 22 | Remove duplicates from an unsorted linked list |
| 23 | 23 | Pairwise swap elements of a given linked list |
| 24 | 24 | Practice questions for Linked List and Recursion |
| 25 | 25 | Move last element to front of a given Linked List |

26	26	Intersection of two Sorted Linked Lists
27	27	Delete alternate nodes of a Linked List
28	28	Alternating split of a given Singly Linked List
29	29	Merge two sorted linked lists
30	30	Identical Linked Lists
31	31	Merge Sort for Linked Lists
32	32	Reverse a Linked List in groups of given size
33	33	Reverse alternate K nodes in a Singly Linked List
34	34	Delete nodes which have a greater value on right side
35	35	Segregate even and odd nodes in a Linked List
36	36	Detect and Remove Loop in a Linked List
37	37	Add two numbers represented by linked lists Set 1
38	38	Delete a given node in Linked List under given constraints
39	39	Union and Intersection of two Linked Lists
40	40	Find a triplet from three linked lists with sum equal to a given number
41	41	Rotate a Linked List
42	42	Flattening a Linked List
43	43	Add two numbers represented by linked lists Set 2
44	44	Sort a linked list of 0s, 1s and 2s
45	45	Flatten a multilevel linked list
46	46	Delete N nodes after M nodes of a linked list
47	47	QuickSort on Singly Linked List
48	48	Merge a linked list into another linked list at alternate positions
49	49	Pairwise swap elements of a given linked list by changing links
50	50	Given a linked list of line segments, remove middle points
51	51	Construct a Maximum Sum Linked List out of two Sorted Linked Lists having some Common
52	52	Can we reverse a linked list in less than $O(n)$?
53	53	Clone a linked list with next and random pointer Set 2
54	54	Insertion Sort for Singly Linked List
55	55	Point to next higher value node in a linked list with an arbitrary pointer

Circular Linked List:

55	1	Circular Linked List Introduction and Applications,
56	2	Circular Linked List Traversal
57	3	Split a Circular Linked List into two halves
58	4	Sorted insert for circular linked list

Doubly Linked List:

59	1	Doubly Linked List Introduction and Insertion
60	2	Delete a node in a Doubly Linked List
61	3	Reverse a Doubly Linked List
62	4	The Great Tree-List Recursion Problem.
63	5	Copy a linked list with next and arbit pointer
64	6	QuickSort on Doubly Linked List
65	7	Swap Kth node from beginning with Kth node from end in a Linked List

Quiz on Linked List

Stack:

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|----|----|--|
| 66 | 1 | Introduction to Stack |
| 67 | 2 | Infix to Postfix Conversion using Stack |
| 68 | 3 | Evaluation of Postfix Expression |
| 69 | 4 | Reverse a Sting using Stack |
| 70 | 5 | Implement two stacks in an array |
| 71 | 6 | Check for balanced parentheses in an expression |
| 72 | 7 | Next Greater Element |
| 73 | 8 | Reverse a stack using recursion |
| 74 | 9 | The Stock Span Problem |
| 75 | 10 | Design and Implement Special Stack Data Structure |
| 76 | 11 | Implement Stack using Queues |
| 77 | 12 | Design a stack with operations on middle element |
| 78 | 13 | How to create mergable stack? |
| 79 | 14 | How to efficiently implement k stacks in a single array? |
| 80 | 15 | Iterative Tower of Hanoi |

Quiz on Stack

Queue:

- | | | |
|----|----|---|
| 81 | 1 | Queue Introduction and Array Implementation |
| 82 | 2 | Linked List Implementation of Queue |
| 83 | 3 | Applications of Queue Data Structure |
| 84 | 4 | Priority Queue Introduction |
| 85 | 5 | Deque (Introduction and Applications) |
| 86 | 6 | Implement Queue using Stacks |
| 87 | 7 | Check whether a given Binary Tree is Complete or not |
| 88 | 8 | Find the largest multiple of 3 |
| 89 | 9 | Find the first circular tour that visits all petrol pumps |
| 90 | 10 | Maximum of all subarrays of size k |
| 91 | 11 | An I nteresting Method to Generate Binary Numbers from 1 to n |
| 92 | 12 | How to efficiently implement k Queues in a single array? |

Quiz on Queue

Binary Tree:

- | | | |
|----|---|---|
| 93 | 1 | Binary Tree Introduction |
| 94 | 2 | Handshaking Lemma and Interesting Tree Properties |
| 95 | 3 | Binary Tree Properties |
| 96 | 4 | Types of Binary Tree |
| 97 | 5 | Applications of tree data structure |

98	6	Tree Traversals
99	7	Threaded Binary Tree
100	8	Size of a tree
101	9	Determine if Two Trees are Identical
102	10	Maximum Depth or Height of a Tree
103	11	Write a C program to Delete a Tree.
104	12	Write an Efficient C Function to Convert a Binary Tree into its Mirror Tree
105	13	If you are given two traversal sequences, can you construct the binary tree?
106	14	Given a binary tree, print out all of its root-to-leaf paths one per line.
107	15	The Great Tree-List Recursion Problem.
108	16	Level Order Tree Traversal
109	17	Count leaf nodes in a binary tree
110	18	Level order traversal in spiral form
111	19	Check for Children Sum Property in a Binary Tree.
112	20	Convert an arbitrary Binary Tree to a tree that holds Children Sum Property
113	21	Diameter of a Binary Tree
114	22	How to determine if a binary tree is height-balanced?
115	23	Inorder Tree Traversal without Recursion
116	24	Inorder Tree Traversal without recursion and without stack!
117	25	Root to leaf path sum equal to a given number
118	26	Construct Tree from given Inorder and Preorder traversals
119	27	Given a binary tree, print all root-to-leaf paths
120	28	Double Tree
121	29	Maximum width of a binary tree
122	30	Foldable Binary Trees
123	31	Print nodes at k distance from root
124	32	Get Level of a node in a Binary Tree
125	33	Print Ancestors of a given node in Binary Tree
126	34	Check if a given Binary Tree is SumTree
127	35	Check if a binary tree is subtree of another binary tree
128	36	Connect nodes at same level
129	37	Connect nodes at same level using constant extra space
130	38	Populate Inorder Successor for all nodes
131	39	Convert a given tree to its Sum Tree
132	40	Vertical Sum in a given Binary Tree
133	41	Find the maximum sum leaf to root path in a Binary Tree
134	42	Construct Special Binary Tree from given Inorder traversal
135	43	Construct a special tree from given preorder traversal
136	44	Check whether a given Binary Tree is Complete or not
137	45	Boundary Traversal of binary tree
138	46	Construct Full Binary Tree from given preorder and postorder traversals
139	47	Iterative Preorder Traversal
140	48	Morris traversal for Preorder
141	49	Linked complete binary tree & its creation
142	50	Ternary Search Tree
143	51	Segment Tree Set 1 (Sum of given range)
144	52	Largest Independent Set Problem

145	53	Iterative Postorder Traversal Set 1 (Using Two Stacks)
146	54	Iterative Postorder Traversal Set 2 (Using One Stack)
147	55	Reverse Level Order Traversal
148	56	Construct Complete Binary Tree from its Linked List Representation
149	57	Convert a given Binary Tree to Doubly Linked List Set 1
150	58	Tree Isomorphism Problem
151	59	Find all possible interpretations of an array of digits
152	60	Iterative Method to find Height of Binary Tree
153	61	Custom Tree Problem
154	62	Convert a given Binary Tree to Doubly Linked List Set 2
155	63	Print ancestors of a given binary tree node without recursion
156	64	Difference between sums of odd level and even level nodes of a Binary Tree
157	65	Print Postorder traversal from given Inorder and Preorder traversals
158	66	Find depth of the deepest odd level leaf node
159	67	Check if all leaves are at same level
160	68	Print Left View of a Binary Tree
161	69	Remove all nodes which don't lie in any path with sum >= k
162	70	Extract Leaves of a Binary Tree in a Doubly Linked List
163	71	Deepest left leaf node in a binary tree
164	72	Find next right node of a given key
165	73	Sum of all the numbers that are formed from root to leaf paths
166	74	Convert a given Binary Tree to Doubly Linked List Set 3
167	75	Lowest Common Ancestor in a Binary Tree Set 1
168	76	Find distance between two given keys of a Binary Tree
169	77	Print all nodes that are at distance k from a leaf node
170	78	Check if a given Binary Tree is height balanced like a Red-Black Tree,
171	79	Print all nodes at distance k from a given node
172	80	Print a Binary Tree in Vertical Order Set 1
173	81	Construct a tree from Inorder and Level order traversals
174	82	Find the maximum path sum between two leaves of a binary tree
175	83	Reverse alternate levels of a perfect binary tree
176	84	Check if two nodes are cousins in a Binary Tree
177	85	Check if a binary tree is subtree of another binary tree Set 2
178	86	Serialize and Deserialize a Binary Tree
179	87	Print nodes between two given level numbers of a binary tree
180	88	closest leaf in a Binary Tree
181	89	Convert a Binary Tree to Threaded binary tree
182	90	Print Nodes in Top View of Binary Tree
183	91	Bottom View of a Binary Tree
184	92	Perfect Binary Tree Specific Level Order Traversal
185	93	Convert left-right representation of a binary tree to down-right
186	94	Print level order traversal line by line
187	95	Minimum no. of iterations to pass information to all nodes in the tree
188	96	Clone a Binary Tree with Random Pointers
189	97	Given a binary tree, how do you remove all the half nodes?
190	98	Vertex Cover Problem Set 2 (Dynamic Programming Solution for Tree)
191	99	Check whether a binary tree is a full binary tree or not

192	100	Find sum of all left leaves in a given Binary Tree
193	101	Remove nodes on root to leaf paths of length < K
194	102	Iterative Search for a key 'x' in Binary Tree
195	103	Find maximum (or minimum) in Binary Tree

[Quiz on Binary Tree](#)

[Quiz on Binary Tree Traversals](#)

[All articles on Tree](#)

Binary Search Tree:

196	1	Search and Insert in BST
197	2	Deletion from BST
198	3	Minimum value in a Binary Search Tree
199	4	Inorder predecessor and successor for a given key in BST
200	5	Check if a binary tree is BST or not
201	6	Lowest Common Ancestor in a Binary Search Tree.
202	7	Sorted order printing of a given array that represents a BST
203	8	Inorder Successor in Binary Search Tree
204	9	Find k-th smallest element in BST (Order Statistics in BST)
205	10	Print BST keys in the given range
206	11	Sorted Array to Balanced BST
207	12	Find the largest BST subtree in a given Binary Tree
208	13	Check for Identical BSTs without building the trees
209	14	Add all greater values to every node in a given BST
210	15	Remove BST keys outside the given range
211	16	Check if each internal node of a BST has exactly one child
212	17	Find if there is a triplet in a Balanced BST that adds to zero
213	18	Merge two BSTs with limited extra space
214	19	Two nodes of a BST are swapped, correct the BST
215	20	Construct BST from given preorder traversal Set 1
216	21	Construct BST from given preorder traversal Set 2
217	22	Floor and Ceil from a BST
218	23	Convert a BST to a Binary Tree such that sum of all greater keys is added to every key
219	24	Sorted Linked List to Balanced BST
220	25	In-place conversion of Sorted DLL to Balanced BST
221	26	Find a pair with given sum in a Balanced BST
222	27	Total number of possible Binary Search Trees with n keys
223	28	Merge Two Balanced Binary Search Trees
224	29	Binary Tree to Binary Search Tree Conversion
225	30	Transform a BST to greater sum tree
226	31	Inorder predecessor and successor for a given key in BST
227	32	K'th Largest Element in BST when modification to BST is not allowed
228	33	How to handle duplicates in Binary Search Tree?

Quiz on Binary Search Trees

Quiz on Balanced Binary Search Trees

Heap:

- 229 1 [Binary Heap](#)
- 230 2 [Binomial Heap](#)
- 231 3 [Heap Sort](#)
- 232 4 [K'th Largest Element in an array](#)
- 233 5 [Sort an almost sorted array/](#)
- 234 6 [Sort an almost sorted array/](#)
- 235 7 [Tournament Tree \(Winner Tree\) and Binary Heap](#)

Hashing:

- 236 1 [Hashing Introduction](#)
- 237 2 [Print a Binary Tree in Vertical Order](#)
- 238 3 [Find whether an array is subset of another array](#)
- 239 4 [Union and Intersection of two Linked Lists](#)
- 240 5 [Find a pair with given sum](#)
- 241 6 [Check if a given array contains duplicate elements within k distance from each other](#)
- 242 7 [Find Itinerary from a given list of tickets](#)
- 243 8 [Find number of Employees Under every Employee](#)

Quiz on Hashing

Graph:

Introduction, DFS and BFS:

- 244 1 [Graph and its representations](#)
- 245 2 [Breadth First Traversal for a Graph](#)
- 246 3 [Depth First Traversal for a Graph](#)
- 247 4 [Applications of Depth First Search](#)
- 248 5 [Applications of Breadth First Traversal](#)
- 249 6 [Detect Cycle in a Directed Graph](#)
- 250 7 [Detect Cycle in a an Undirected Graph](#)
- 251 8 [Detect cycle in an undirected graph](#)
- 252 9 [Longest Path in a Directed Acyclic Graph](#)
- 253 10 [Topological Sorting](#)
- 254 11 [Check whether a given graph is Bipartite or not](#)
- 255 12 [Snake and Ladder Problem](#)
- 256 13 [Minimize Cash Flow among a given set of friends who have borrowed money from each ot](#)
- 257 14 [Boggle \(Find all possible words in a board of characters\)](#)
- 258 15 [Assign directions to edges so that the directed graph remains acyclic](#)

Minimum Spanning Tree:

- 259 1 [Prim's Minimum Spanning Tree \(MST\)](#)
- 260 2 [Applications of Minimum Spanning Tree Problem](#)
- 261 3 [Prim's MST for Adjacency List Representation](#)
- 262 4 [Kruskal's Minimum Spanning Tree Algorithm](#)
- 263 5 [Boruvka's algorithm for Minimum Spanning Tree](#)

Shortest Paths:

- 264 1 [Dijkstra's shortest path algorithm](#)
- 265 2 [Dijkstra's Algorithm for Adjacency List Representation](#)
- 266 3 [Bellman–Ford Algorithm](#)
- 267 4 [Floyd Warshall Algorithm](#)
- 268 5 [Johnson's algorithm for All-pairs shortest paths](#)
- 269 6 [Shortest Path in Directed Acyclic Graph](#)
- 270 7 [Some interesting shortest path questions,](#)
- 271 8 [Shortest path with exactly k edges in a directed and weighted graph](#)

Connectivity:

- 272 1 [Find if there is a path between two vertices in a directed graph](#)
- 273 2 [Connectivity in a directed graph](#)
- 274 3 [Articulation Points \(or Cut Vertices\) in a Graph](#)
- 275 4 [Biconnected graph](#)
- 276 5 [Bridges in a graph](#)
- 277 6 [Eulerian path and circuit](#)
- 278 7 [Fleury's Algorithm for printing Eulerian Path or Circuit](#)
- 279 8 [Strongly Connected Components](#)
- 280 9 [Transitive closure of a graph](#)
- 281 10 [Find the number of islands](#)
- 282 11 [Count all possible walks from a source to a destination with exactly k edges](#)
- 283 12 [Euler Circuit in a Directed Graph](#)
- 284 13 [Biconnected Components](#)
- 285 14 [Check if a given graph is tree or not](#)
- 286 15 [Karger's algorithm for Minimum Cut](#)

Hard Problems:

- 287 1 [Graph Coloring \(Introduction and Applications\)](#)
- 288 2 [Greedy Algorithm for Graph Coloring](#)
- 289 3 [Travelling Salesman Problem \(Naive and Dynamic Programming\)](#)
- 290 4 [Travelling Salesman Problem \(Approximate using MST\)](#)
- 291 5 [Hamiltonian Cycle](#)
- 292 6 [Vertex Cover Problem | Set 1 \(Introduction and Approximate Algorithm\)](#)
- 293 7 [K Centers Problem | Set 1 \(Greedy Approximate Algorithm\)](#)

Maximum Flow:

- 294 1 [Ford-Fulkerson Algorithm for Maximum Flow Problem](#)
- 295 2 [Find maximum number of edge disjoint paths between two vertices](#)
- 296 3 [Find minimum s-t cut in a flow network](#)
- 297 4 [Maximum Bipartite Matching](#)
- 298 5 [Channel Assignment Problem](#)

[Quiz on Graph](#)

[Quiz on Graph Traversals](#)

[Quiz on Graph Shortest Paths](#)

[Quiz on Graph Minimum Spanning Tree](#)

Advanced Data Structure:

Advanced Lists:

- 299 1 [Memory efficient doubly linked list](#)
- 300 2 [XOR Linked List – A Memory Efficient Doubly Linked List | Set 1](#)
- 301 3 [XOR Linked List – A Memory Efficient Doubly Linked List | Set 2](#)
- 302 4 [Skip List | Set 1 \(Introduction\)](#)
- 303 5 [Self Organizing List | Set 1 \(Introduction\)](#)

Trie:

- 304 1 [Trie | \(Insert and Search\)](#)
- 305 2 [Trie | \(Delete\)](#)
- 306 3 [Longest prefix matching – A Trie based solution in Java](#)
- 307 4 [Print unique rows in a given boolean matrix](#)

[How to Implement Reverse DNS Look Up Cache?](#)

[How to Implement Forward DNS Look Up Cache?](#)

Suffix Array and Suffix Tree :

- 308 1 [Suffix Array Introduction](#)
- 309 2 [Suffix Array nLogn Algorithm](#)
- 310 3 [Suffix Tree Introduction](#)
- 311 4 [Ukkonen's Suffix Tree Construction – Part 1](#)
- 312 5 [Ukkonen's Suffix Tree Construction – Part 2](#)
- 313 6 [Ukkonen's Suffix Tree Construction – Part 3](#)
- 314 7 [Ukkonen's Suffix Tree Construction – Part 4,](#)
- 315 8 [Ukkonen's Suffix Tree Construction – Part 5](#)
- 316 9 [Ukkonen's Suffix Tree Construction – Part 6](#)

317	10	Generalized Suffix Tree
318	11	Build Linear Time Suffix Array using Suffix Tree
319	12	Substring Check
320	13	Searching All Patterns
321	14	Longest Repeated Substring,
322	15	Longest Common Substring, Longest Palindromic Substring

AVL Tree:

323	1	AVL Tree Set 1 (Insertion)
324	2	AVL Tree Set 2 (Deletion)

[AVL with duplicate keys](#)

Splay Tree:

325	1	Splay Tree Set 1 (Search)
326	2	Splay Tree Set 2 (Insert)

B Tree:

327	1	B-Tree Set 1 (Introduction)
328	2	B-Tree Set 2 (Insert)
329	3	B-Tree Set 3 (Delete)

Segment Tree:

330	1	Segment Tree Set 1 (Sum of given range)
331	2	Segment Tree Set 2 (Range Minimum Query)

Red-Black Tree:

332	1	Red-Black Tree Introduction
333	2	Red Black Tree Insertion.
334	3	Red-Black Tree Deletion
335	4	Program for Red Black Tree Insertion

Others:

336	1	Ternary Search Tree
337	2	Interval Tree
338	3	Implement LRU Cache
339	4	Sort numbers stored on different machines
340	5	Find the k most frequent words from a file
341	6	Given a sequence of words, print all anagrams together
342	7	Tournament Tree (Winner Tree) and Binary Heap
343	8	Decision Trees – Fake (Counterfeit) Coin Puzzle (12 Coin Puzzle)

344	9	Spaghetti Stack
345	10	Data Structure for Dictionary and Spell Checker?
346	11	KD Tree
347	12	Binomial Heap
348	13	KD Tree
349	14	Binary Indexed Tree

Array:

350	1	Given an array A[] and a number x, check for pair in A[] with sum as x
351	2	Majority Element
352	3	Find the Number Occurring Odd Number of Times
353	4	Largest Sum Contiguous Subarray
354	5	Find the Missing Number
355	6	Search an element in a sorted and pivoted array
356	7	Merge an array of size n into another array of size m+n
357	8	Median of two sorted arrays
358	9	Write a program to reverse an array
359	10	Program for array rotation
360	11	Reversal algorithm for array rotation
361	12	Block swap algorithm for array rotation
362	13	Maximum sum such that no two elements are adjacent
363	14	Leaders in an array
364	15	Sort elements by frequency Set 1
365	16	Count Inversions in an array
366	17	Two elements whose sum is closest to zero
367	18	Find the smallest and second smallest element in an array
368	19	Check for Majority Element in a sorted array
369	20	Maximum and minimum of an array using minimum number of comparisons
370	21	Segregate 0s and 1s in an array
371	22	k largest(or smallest) elements in an array added Min Heap method
372	23	Maximum difference between two elements
373	24	Union and Intersection of two sorted arrays
374	25	Floor and Ceiling in a sorted array
375	26	A Product Array Puzzle
376	27	Segregate Even and Odd numbers
377	28	Find the two repeating elements in a given array
378	29	Sort an array of 0s, 1s and 2s
379	30	Find the Minimum length Unsorted Subarray, sorting which makes the complete array sorted
380	31	Find duplicates in O(n) time and O(1) extra space
381	32	Equilibrium index of an array
382	33	Linked List vs Array
383	34	Which sorting algorithm makes minimum number of memory writes?
384	35	Turn an image by 90 degree
385	36	Next Greater Element
386	37	Check if array elements are consecutive Added Method 3
387	38	Find the smallest missing number

388	39	Count the number of occurrences in a sorted array
389	40	Interpolation search vs Binary search
390	41	Given an array arr[], find the maximum j – i such that arr[j] > arr[i]
391	42	Maximum of all subarrays of size k (Added a O(n) method)
392	43	Find whether an array is subset of another array Added Method 3
393	44	Find the minimum distance between two numbers
394	45	Find the repeating and the missing Added 3 new methods
395	46	Median in a stream of integers (running integers)
396	47	Find a Fixed Point in a given array
397	48	Maximum Length Bitonic Subarray
398	49	Find the maximum element in an array which is first increasing and then decreasing
399	50	Count smaller elements on right side
400	51	Minimum number of jumps to reach end
401	52	Implement two stacks in an array
402	53	Find subarray with given sum
403	54	Dynamic Programming Set 14 (Maximum Sum Increasing Subsequence)
404	55	Longest Monotonically Increasing Subsequence Size (N log N)
405	56	Find a triplet that sum to a given value
406	57	Find the smallest positive number missing from an unsorted array
407	58	Find the two numbers with odd occurrences in an unsorted array
408	59	The Celebrity Problem
409	60	Dynamic Programming Set 15 (Longest Bitonic Subsequence)
410	61	Find a sorted subsequence of size 3 in linear time
411	62	Largest subarray with equal number of 0s and 1s
412	63	Dynamic Programming Set 18 (Partition problem)
413	64	Maximum Product Subarray
414	65	Find a pair with the given difference
415	66	Replace every element with the next greatest
416	67	Dynamic Programming Set 20 (Maximum Length Chain of Pairs)
417	68	Find four elements that sum to a given value Set 1 (n³ solution)
418	69	Find four elements that sum to a given value Set 2 (O(n²Logn) Solution)
419	70	Sort a nearly sorted (or K sorted) array
420	71	Maximum circular subarray sum
421	72	Find the row with maximum number of 1s
422	73	Median of two sorted arrays of different sizes
423	74	Shuffle a given array
424	75	Count the number of possible triangles
425	76	Iterative Quick Sort
426	77	Find the number of islands
427	78	Construction of Longest Monotonically Increasing Subsequence (N log N)
428	79	Find the first circular tour that visits all petrol pumps
429	80	Arrange given numbers to form the biggest number
430	81	Pancake sorting
431	82	A Pancake Sorting Problem
432	83	Tug of War
433	84	Divide and Conquer Set 3 (Maximum Subarray Sum)
434	85	Counting Sort

435	86	Merge Overlapping Intervals
436	87	Find the maximum repeating number in O(n) time and O(1) extra space
437	88	Stock Buy Sell to Maximize Profit
438	89	Rearrange positive and negative numbers in O(n) time and O(1) extra space
439	90	Sort elements by frequency Set 2
440	91	Find a peak element
441	92	Print all possible combinations of r elements in a given array of size n
442	93	Given an array of size n and a number k, find all elements that appear more than n/k times
443	94	Find the point where a monotonically increasing function becomes positive first time
444	95	Find the Increasing subsequence of length three with maximum product
445	96	Find the minimum element in a sorted and rotated array
446	97	Stable Marriage Problem
447	98	Merge k sorted arrays Set 1
448	99	Radix Sort
449	100	Move all zeroes to end of array
450	101	Find number of pairs such that $x^y > y^x$
451	102	Count all distinct pairs with difference equal to k
452	103	Find if there is a subarray with 0 sum
453	104	Smallest subarray with sum greater than a given value
454	105	Sort an array according to the order defined by another array
455	106	Maximum Sum Path in Two Arrays
456	107	Check if a given array contains duplicate elements within k distance from each other
457	108	Sort an array in wave form
458	109	K'th Smallest/Largest Element in Unsorted Array, K'th Smallest/Largest Element in Unsorted Array
459	110	K'th Smallest/Largest Element in Unsorted Array in Worst Case Linear Time
460	111	Find Index of 0 to be replaced with 1 to get longest continuous sequence of 1s in a binary array
461	112	Find the closest pair from two sorted arrays
462	113	Given a sorted array and a number x, find the pair in array whose sum is closest to x
463	114	Count 1's in a sorted binary array
464	115	Print All Distinct Elements of a given integer array
465	116	Construct an array from its pair-sum array
466	117	Find common elements in three sorted arrays
467	118	Find the first repeating element in an array of integers
468	119	Find the smallest positive integer value that cannot be represented as sum of any subset of the array
469	120	Rearrange an array such that 'arr[j]' becomes 'i' if 'arr[i]' is 'j'
470	121	Find position of an element in a sorted array of infinite numbers
471	122	Can QuickSort be implemented in O(nLogn) worst case time complexity?
472	123	Check if a given array contains duplicate elements within k distance from each other
473	124	Find the element that appears once
474	125	Replace every array element by multiplication of previous and next
475	126	Check if any two intervals overlap among a given set of intervals
476	127	Delete an element from array (Using two traversals and one traversal)
477	128	Given a sorted array and a number x, find the pair in array whose sum is closest to x
478	129	Find the largest pair sum in an unsorted array
479	130	Online algorithm for checking palindrome in a stream
480	131	Find Union and Intersection of two unsorted arrays
481	132	Pythagorean Triplet in an array

482 133 [Maximum profit by buying and selling a share at most twice](#)

[Quiz on Array](#)

Matrix:

- 483 1 [Search in a row wise and column wise sorted matrix](#)
- 484 2 [Print a given matrix in spiral form](#)
- 485 3 [A Boolean Matrix Question](#)
- 486 4 [Print unique rows in a given boolean matrix](#)
- 487 5 [Maximum size square sub-matrix with all 1s](#)
- 488 6 [Print unique rows in a given boolean matrix](#)
- 489 7 [Inplace M x N size matrix transpose | Updated](#)
- 490 8 [Print Matrix Diagonally](#)
- 491 9 [Dynamic Programming | Set 27 \(Maximum sum rectangle in a 2D matrix\)](#)
- 492 10 [Strassen's Matrix Multiplication](#)
- 493 11 [Create a matrix with alternating rectangles of O and X](#)
- 494 12 [Find the row with maximum number of 1s](#)
- 495 13 [Print all elements in sorted order from row and column wise sorted matrix](#)
- 496 14 [Given an n x n square matrix, find sum of all sub-squares of size k x k](#)
- 497 15 [Count number of islands where every island is row-wise and column-wise separated](#)
- 498 16 [Find a common element in all rows of a given row-wise sorted matrix](#)
- 499 17 [Given a matrix of 'O' and 'X', replace 'O' with 'X' if surrounded by 'X'](#)

Misc:

- 500 1 [Commonly Asked Data Structure Interview Questions | Set 1](#)
- 501 2 [A data structure for n elements and O\(1\) operations](#)

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