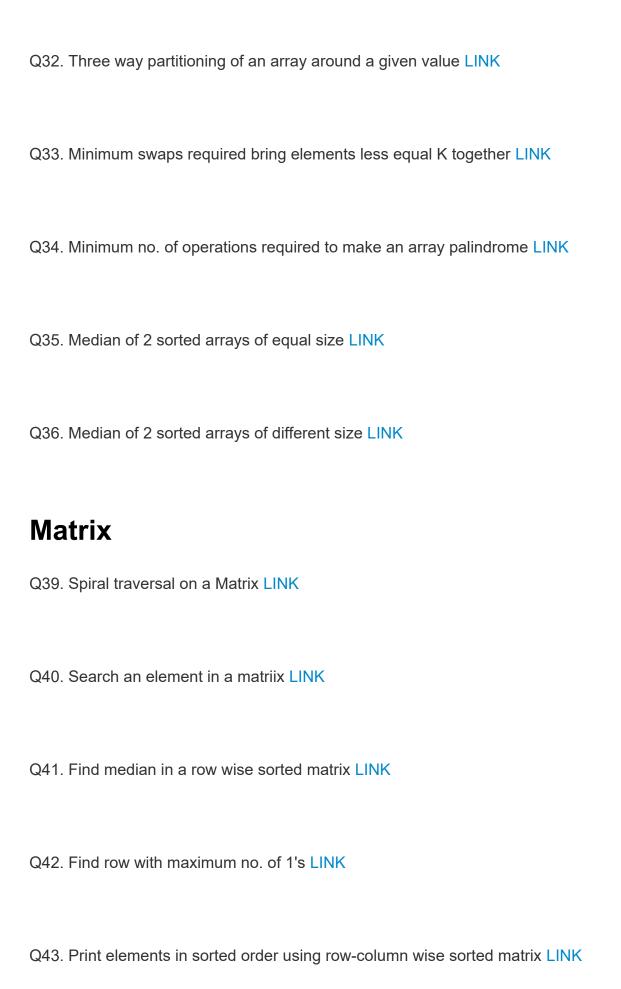
## **Array**

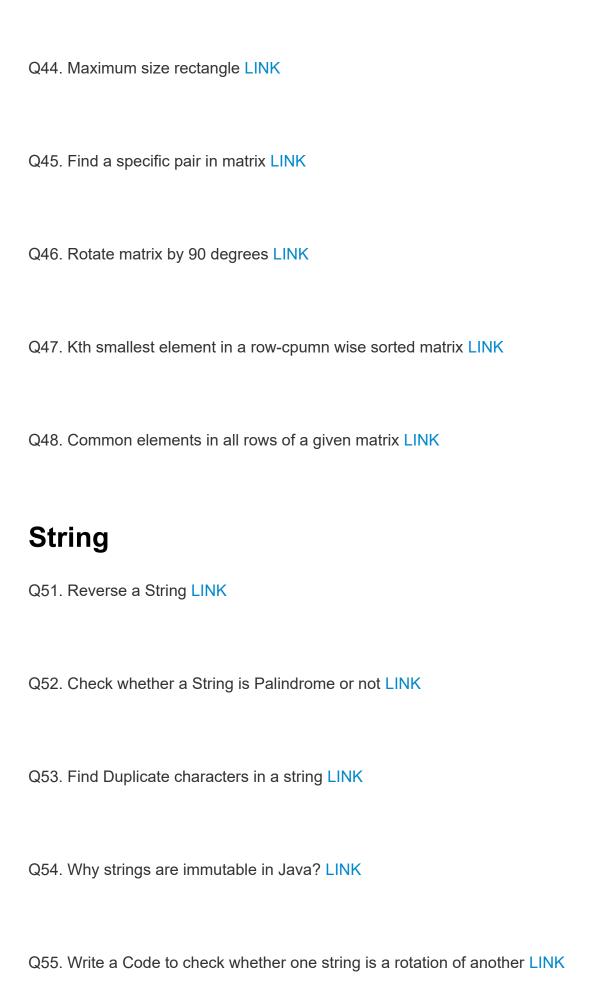
Q1. Reverse the array LINK
Q2. Find the maximum and minimum element in an array LINK
Q3. Find the "Kth" max and min element of an array LINK
Q4. Given an array which consists of only 0, 1 and 2. Sort the array without using any sorting algo
Q5. Move all the negative elements to one side of the array LINK
Q6. Find the Union and Intersection of the two sorted arrays. LINK
Q7. Write a program to cyclically rotate an array by one. LINK
Q8. find Largest sum contiguous Subarray [V. IMP] LINK
Q9. Minimise the maximum difference between heights [V.IMP] LINK

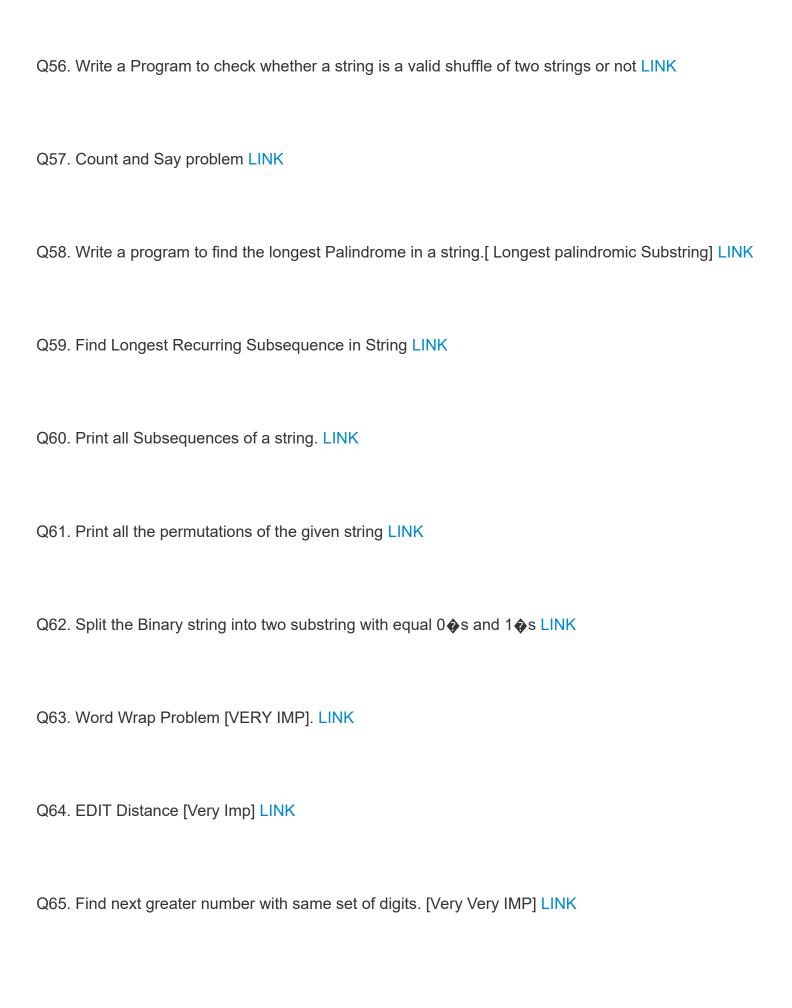
Q10. Minimum no. of Jumps to reach end of an array  ${\color{red}\mathsf{LINK}}$ 

Q11. find duplicate in an array of N+1 Integers LINK
Q12. Merge 2 sorted arrays without using Extra space. LINK
Q13. Kadane's Algo [V.V.V.V IMP] LINK
Q14. Merge Intervals LINK
Q15. Next Permutation LINK
Q16. Count Inversion LINK
Q17. Best time to buy and Sell stock LINK
Q18. find all pairs on integer array whose sum is equal to given number LINK
Q19. find common elements In 3 sorted arrays LINK
Q20. Rearrange the array in alternating positive and negative items with O(1) extra space LINK

Q21. Find if there is any subarray with sum equal to 0 LINK
Q22. Find factorial of a large number LINK
Q23. find maximum product subarray LINK
Q24. Find longest coinsecutive subsequence LINK
Q25. Given an array of size n and a number k, fin all elements that appear more than " n/k " times. LINK
Q26. Maximum profit by buying and selling a share atmost twice LINK
Q27. Find whether an array is a subset of another array LINK
Q28. Find the triplet that sum to a given value LINK
Q29. Trapping Rain water problem LINK
Q30. Chocolate Distribution problem LINK
Q31. Smallest Subarray with sum greater than a given value LINK

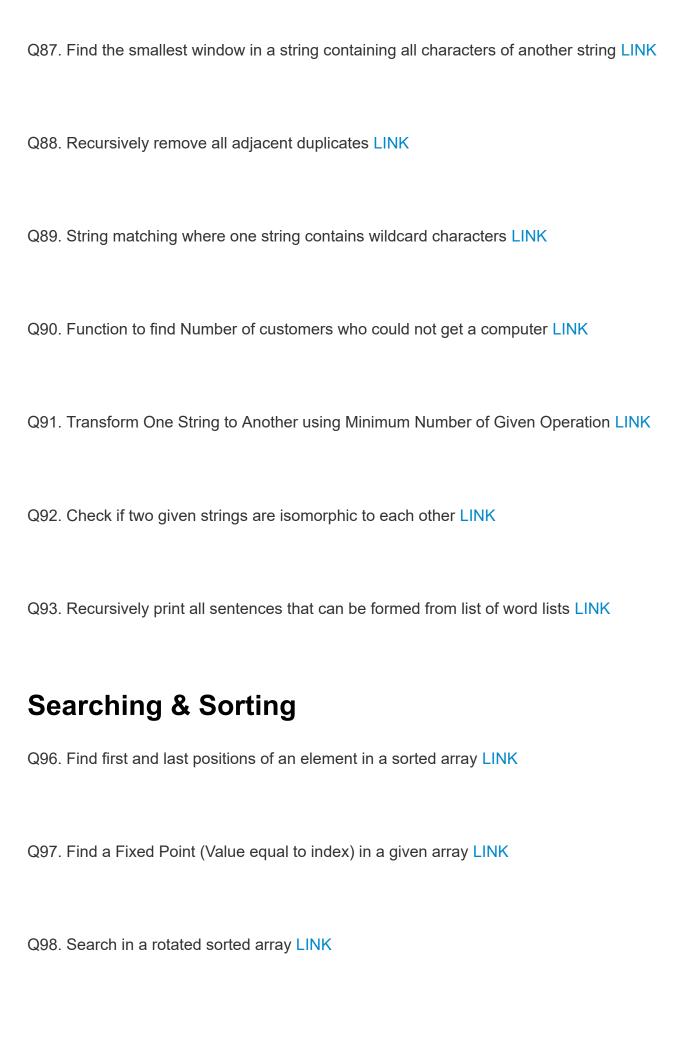






Q66. Balanced Parenthesis problem.[Imp] LINK
Q67. Word break Problem[ Very Imp] LINK
Q68. Rabin Karp Algo LINK
Q69. KMP Algo LINK
Q70. Convert a Sentence into its equivalent mobile numeric keypad sequence. LINK
Q71. Minimum number of bracket reversals needed to make an expression balanced. LINK
Q72. Count All Palindromic Subsequence in a given String. LINK
Q73. Count of number of given string in 2D character array LINK
Q74. Search a Word in a 2D Grid of characters. LINK
Q75. Boyer Moore Algorithm for Pattern Searching. LINK
Q76. Converting Roman Numerals to Decimal LINK

Q77.	Longest Common Prefix LINK
Q78.	Number of flips to make binary string alternate LINK
Q79.	Find the first repeated word in string. LINK
Q80.	Minimum number of swaps for bracket balancing. LINK
Q81.	Find the longest common subsequence between two strings. LINK
Q82.	Program to generate all possible valid IP addresses from given string. LINK
Q83.	Write a program tofind the smallest window that contains all characters of string itself. LINK
Q84.	Rearrange characters in a string such that no two adjacent are same LINK
Q85.	Minimum characters to be added at front to make string palindrome LINK
Q86.	Given a sequence of words, print all anagrams together LINK



Q99. square root of an integer LINK
Q100. Maximum and minimum of an array using minimum number of comparisons LINK
Q101. Optimum location of point to minimize total distance LINK
Q102. Find the repeating and the missing LINK
Q103. find majority element LINK
Q104. Searching in an array where adjacent differ by at most k LINK
Q105. find a pair with a given difference LINK
Q106. find four elements that sum to a given value LINK
Q107. maximum sum such that no 2 elements are adjacent LINK
Q108. Count triplet with sum smaller than a given value LINK
Q109. merge 2 sorted arrays LINK

Q110. print all subarrays with 0 sum LINK
Q111. Product array Puzzle LINK
Q112. Sort array according to count of set bits LINK
Q113. minimum no. of swaps required to sort the array LINK
Q114. Bishu and Soldiers LINK
Q115. Rasta and Kheshtak LINK
Q116. Kth smallest number again LINK
Q117. Find pivot element in a sorted array LINK
Q118. K-th Element of Two Sorted Arrays LINK
Q119. Aggressive cows LINK

Q120. Book Allocation Problem LINK
Q121. EKOSPOJ: LINK
Q122. Job Scheduling Algo LINK
Q123. Missing Number in AP LINK
Q124. Smallest number with atleastn trailing zeroes infactorial LINK
Q125. Painters Partition Problem: LINK
Q126. ROTI-Prata SPOJ LINK
Q127. DoubleHelix SPOJ LINK
Q128. Subset Sums LINK
Q129. Findthe inversion count LINK

Q130. Implement Merge-sort in-place LINK

#### LinkedList

Q134. Write a Program to reverse the Linked List. (Both Iterative and recursive) LINK

Q135. Reverse a Linked List in group of Given Size. [Very Imp] LINK

Q136. Write a program to Detect loop in a linked list. LINK

Q137. Write a program to Delete loop in a linked list. LINK

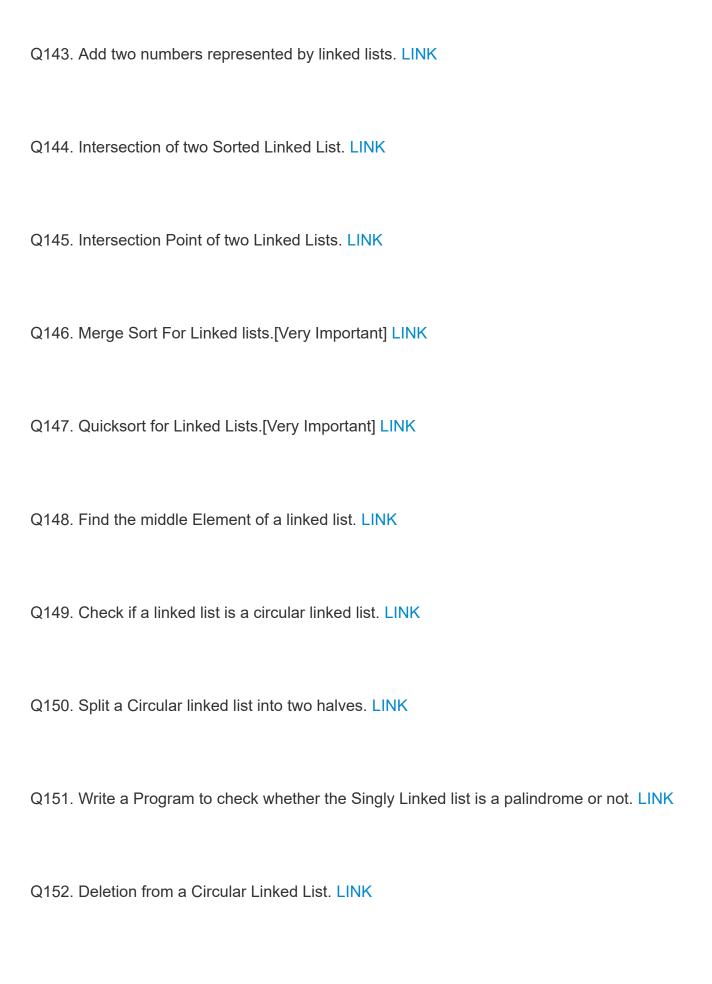
Q138. Find the starting point of the loop. LINK

Q139. Remove Duplicates in a sorted Linked List. LINK

Q140. Remove Duplicates in a Un-sorted Linked List. LINK

Q141. Write a Program to Move the last element to Front in a Linked List. LINK

Q142. Add �1� to a number represented as a Linked List. LINK



Q 155. Reverse a Doubly Linked list. Link
Q154. Find pairs with a given sum in a DLL. LINK
Q155. Count triplets in a sorted DLL whose sum is equal to given value �X�. LINK
Q156. Sort a &k&sorted Doubly Linked list.[Very IMP] LINK
Q157. Rotate DoublyLinked list by N nodes. LINK
Q158. Rotate a Doubly Linked list in group of Given Size.[Very IMP] LINK
Q159. Can we reverse a linked list in less than O(n) ? LINK
Q160. Why Quicksort is preferred for. Arrays and Merge Sort for LinkedLists? LINK
Q161. Flatten a Linked List LINK
Q162. Sort a LL of 0's, 1's and 2's LINK

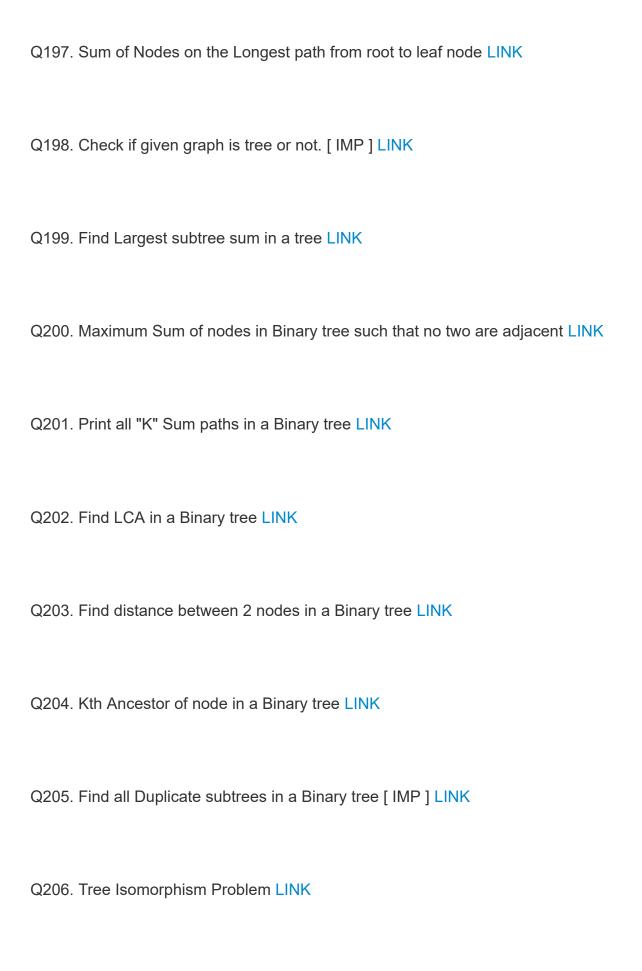
Q163. Clone a linked list with next and random pointer LINK

Q164. Merge K sorted Linked list LINK
Q165. Multiply 2 no. represented by LL LINK
Q166. Delete nodes which have a greater value on right side LINK
Q167. Segregate even and odd nodes in a Linked List LINK
Q168. Program for note from the end of a Linked List LINK
Q169. Find the first non-repeating character from a stream of characters LINK
Binary Trees
Q172. level order traversal LINK
Q173. Reverse Level Order traversal LINK
Q174. Height of a tree LINK

Q175. Diameter of a tree LINK

Q176. I	Mirror of a tree LINK
Q177. I	norder Traversal of a tree both using recursion and Iteration LINK
Q178. F	Preorder Traversal of a tree both using recursion and Iteration LINK
Q179. F	Postorder Traversal of a tree both using recursion and Iteration LINK
Q180. l	_eft View of a tree LINK
Q181. F	Right View of Tree LINK
Q182. T	Top View of a tree LINK
Q183. E	Bottom View of a tree LINK
Q184. Z	Zig-Zag traversal of a binary tree LINK
Q185. (	Check if a tree is balanced or not LINK

Q186. Diagnol Traversal of a Binary tree LINK
Q187. Boundary traversal of a Binary tree LINK
Q188. Construct Binary Tree from String with Bracket Representation LINK
Q189. Convert Binary tree into Doubly Linked List LINK
Q190. Convert Binary tree into Sum tree LINK
Q191. Construct Binary tree from Inorder and preorder traversal LINK
Q192. Find minimum swaps required to convert a Binary tree into BST LINK
Q193. Check if Binary tree is Sum tree or not LINK
Q194. Check if all leaf nodes are at same level or not LINK
Q195. Check if a Binary Tree contains duplicate subtrees of size 2 or more [ IMP ] LINK
Q196. Check if 2 trees are mirror or not LINK



# **Binary Search Trees**

Q209. Fina a value in a BST LINK
Q210. Deletion of a node in a BST LINK
Q211. Find min and max value in a BST LINK
Q212. Find inorder successor and inorder predecessor in a BST LINK
Q213. Check if a tree is a BST or not LINK
Q214. Populate Inorder successor of all nodes LINK
Q215. Find LCA of 2 nodes in a BST LINK
Q216. Construct BST from preorder traversal LINK
Q217. Convert Binary tree into BST LINK
Q218. Convert a normal BST into a Balanced BST LINK

Q219. Merge two BST [ V.V.V>IMP ] LINK
Q220. Find Kth largest element in a BST LINK
Q221. Find Kth smallest element in a BST LINK
Q222. Count pairs from 2 BST whose sum is equal to given value "X" LINK
Q223. Find the median of BST in O(n) time and O(1) space LINK
Q224. Count BST ndoes that lie in a given range LINK
Q225. Replace every element with the least greater element on its right LINK
Q226. Given "n" appointments, find the conflicting appointments LINK
Q227. Check preorder is valid or not LINK
Q228. Check whether BST contains Dead end LINK

Q229. Largest BST in a Binary Tree [ V.V.V.V IMP ]  ${\ensuremath{\mathsf{LINK}}}$ 

## Greedy

Q233. Activity Selection Problem LINK

Q234. Job SequencingProblem LINK

Q235. Huffman Coding LINK

Q236. Water Connection Problem LINK

Q237. Fractional Knapsack Problem LINK

Q238. Greedy Algorithm to find Minimum number of Coins LINK

Q239. Maximum trains for which stoppage can be provided LINK

Q240. Minimum Platforms Problem LINK

Q241. Buy Maximum Stocks if i stocks can be bought on i-th day LINK

Q242. F	Find the minimum and maximum amount to buy all N candies LINK
Q243. I LINK	Minimize Cash Flow among a given set of friends who have borrowed money from each other
Q244. ľ	Minimum Cost to cut a board into squares LINK
Q245. (	Check if it is possible to survive on Island LINK
Q246. F	Find maximum meetings in one room LINK
Q247. N	Maximum product subset of an array LINK
Q248. I	Maximize array sum after K negations LINK
Q249. I	Maximize the sum of arr[i]*i LINK
Q250. N	Maximum sum of absolute difference of an array LINK
Q251. N	Maximize sum of consecutive differences in a circular array LINK

Q252. Minimum sum of absolute difference of pairs of two arrays LINK
Q253. Program for Shortest Job First (or SJF) CPU Scheduling LINK
Q254. Program for Least Recently Used (LRU) Page Replacement algorithm LINK
Q255. Smallest subset with sum greater than all other elements LINK
Q256. Chocolate Distribution Problem LINK
Q257. DEFKIN -Defense of a Kingdom LINK
Q258. DIEHARD -DIE HARD LINK
Q259. GERGOVIA -Wine trading in Gergovia LINK
Q260. Picking Up Chicks LINK
Q261. CHOCOLA & Chocolate LINK
Q262. ARRANGE -Arranging Amplifiers LINK

Q263. K Centers Problem LINK
Q264. Minimum Cost of ropes LINK
Q265. Find smallest number with given number of digits and sum of digits LINK
Q266. Rearrange characters in a string such that no two adjacent are same LINK
Q267. Find maximum sum possible equal sum of three stacks LINK
BackTracking
BackTracking  Q270. Rat in a maze Problem LINK
Q270. Rat in a maze Problem LINK
Q270. Rat in a maze Problem LINK  Q271. Printing all solutions in N-Queen Problem LINK

Q275.	m Coloring Problem LINK
Q276.	Print all palindromic partitions of a string LINK
Q277.	Subset Sum Problem LINK
Q278.	The Knight s tour problem LINK
Q279.	Tug of War LINK
Q280.	Find shortest safe route in a path with landmines LINK
Q281.	Combinational Sum LINK
Q282.	Find Maximum number possible by doing at-most K swaps LINK
Q283.	Print all permutations of a string LINK
Q284.	Find if there is a path of more than k length from a source LINK

Q285. Longest Possible Route in a Matrix with Hurdles LINK
Q286. Print all possible paths from top left to bottom right of a mXn matrix LINK
Q287. Partition of a set intoK subsets with equal sum LINK
Q288. Find the K-th Permutation Sequence of first N natural numbers LINK
Stacks & Queues
Q291. Implement Stack from Scratch LINK
Q292. Implement Queue from Scratch LINK
Q293. Implement 2 stack in an array LINK
Q294. find the middle element of a stack LINK
Q295. Implement "N" stacks in an Array LINK
Q296. Check the expression has valid or Balanced parenthesis or not. LINK

Q297. Reverse a String using Stack LINK
Q298. Design a Stack that supports getMin() in O(1) time and O(1) extra space. LINK
Q299. Find the next Greater element LINK
Q300. The celebrity Problem LINK
Q301. Arithmetic Expression evaluation LINK
Q302. Evaluation of Postfix expression LINK
Q303. Implement a method to insert an element at its bottom without using any other data structure LINK
Q304. Reverse a stack using recursion LINK
Q305. Sort a Stack using recursion LINK
Q306. Merge Overlapping Intervals LINK
Q307. Largest rectangular Area in Histogram LINK

Q308. Length of the Longe	est Valid Substring LINK
Q309. Expression contains	s redundant bracket or not LINK
Q310. Implement Stack us	sing Queue LINK
Q311. Implement Stack us	ing Deque LINK
Q312. Stack Permutations	(Check if an array is stack permutation of other) LINK
Q313. Implement Queue u	using Stack LINK
Q314. Implement "n" queu	e in an array LINK
Q315. Implement a Circula	ar queue LINK
Q316. LRU Cache Implem	entationa LINK
Q317. Reverse a Queue u	sing recursion LINK

Q318. Reverse the first <b>&amp;</b> K <b>&amp;</b> elements of a queue LINK
Q319. Interleave the first half of the queue with second half LINK
Q320. Find the first circular tour that visits all Petrol Pumps LINK
Q321. Minimum time required to rot all oranges LINK
Q322. Distance of nearest cell having 1 in a binary matrix LINK
Q323. First negative integer in every window of size �k� LINK
Q324. Check if all levels of two trees are anagrams or not. LINK
Q325. Sum of minimum and maximum elements of all subarrays of size �k�. LINK
Q326. Minimum sum of squares of character counts in a given string after removing �k� characters.
Q327. Queue based approach or first non-repeating character in a stream. LINK
Q328. Next Smaller Element LINK

#### Heap

Q331. Implement a Maxheap/MinHeap using arrays and recursion. LINK

Q332. Sort an Array using heap. (HeapSort) LINK

Q333. Maximum of all subarrays of size k. LINK

Q334. • k largest element in an array LINK

Q335. Kth smallest and largest element in an unsorted array LINK

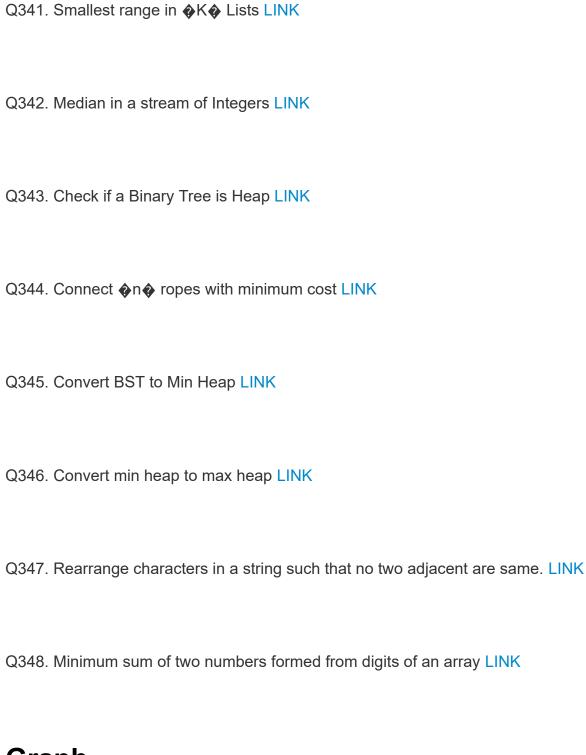
Q336. Merge **%**K**%** sorted arrays. [ IMP ] LINK

Q337. Merge 2 Binary Max Heaps LINK

Q338. Kth largest sum continuous subarrays LINK

Q339. Leetcode- reorganize strings LINK

Q340. Merge &K Sorted Linked Lists [V.IMP] LINK



## Graph

Q351. Create a Graph, print it LINK

Q352. Implement BFS algorithm LINK

Q353. Implement DFS Algo LINK
Q354. Detect Cycle in Directed Graph using BFS/DFS Algo LINK
Q355. Detect Cycle in UnDirected Graph using BFS/DFS Algo LINK
Q356. Search in a Maze LINK
Q357. Minimum Step by Knight LINK
Q358. flood fill algo LINK
Q359. Clone a graph LINK
Q360. Making wired Connections LINK
Q361. word Ladder LINK
Q362. Dijkstra algo LINK

Q363. Implement Topological Sort LINK
Q364. Minimum time taken by each job to be completed given by a Directed Acyclic Graph LIN
Q365. Find whether it is possible to finish all tasks or not from given dependencies LINK
Q366. Find the no. of Isalnds LINK
Q367. Given a sorted Dictionary of an Alien Language, find order of characters LINK
Q368. Implement Kruksal sAlgorithm LINK
Q369. Implement Prim s Algorithm LINK
Q370. Total no. of Spanning tree in a graph LINK
Q371. Implement Bellman Ford Algorithm LINK
Q372. Implement Floyd warshallAlgorithm LINK
Q373. Travelling Salesman Problem LINK

Q374.	Graph ColouringProblem LINK
Q375.	Snake and Ladders Problem LINK
Q376.	Find bridge in a graph LINK
Q377.	Count Strongly connected Components(Kosaraju Algo) LINK
Q378.	Check whether a graph is Bipartite or Not LINK
Q379.	Detect Negative cycle in a graph LINK
Q380.	Longest path in a Directed Acyclic Graph LINK
Q381.	Journey to the Moon LINK
Q382.	Cheapest Flights Within K Stops LINK
Q383.	Oliver and the Game LINK

Q384. Water Jug problem using BFS LINK
Q385. Water Jug problem using BFS LINK
Q386. Find if there is a path of more thank length from a source LINK
Q387. M-ColouringProblem LINK
Q388. Minimum edges to reverse o make path from source to destination LINK
Q389. Paths to travel each nodes using each edge(Seven Bridges) LINK
Q390. Vertex Cover Problem LINK
Q391. Chinese Postman or Route Inspection LINK
Q392. Number of Triangles in a Directed and Undirected Graph LINK
Q393. Minimise the cashflow among a given set of friends who have borrowed money from each othe LINK
Q394. Two Clique Problem LINK

#### **Trie**

Q397. Construct a trie from scratch LINK

Q398. Find shortest unique prefix for every word in a given list LINK

Q399. Word Break Problem | (Trie solution) LINK

Q400. Given a sequence of words, print all anagrams together LINK

Q401. Implement a Phone Directory LINK

Q402. Print unique rows in a given boolean matrix LINK

#### **Dynamic Programming**

Q405. Coin ChangeProblem LINK

Q406. Knapsack Problem LINK

Q407. Binomial CoefficientProblem LINK

Q408. Permutation CoefficientProblem LINK
Q409. Program for nth Catalan Number LINK
Q410. Matrix Chain Multiplication  LINK
Q411. Edit Distance LINK
Q412. Subset Sum Problem LINK
Q413. Friends Pairing Problem LINK
Q414. Gold Mine Problem LINK
Q415. Assembly Line SchedulingProblem LINK
Q416. Painting the Fenceproblem LINK
Q417. Maximize The Cut Segments LINK

Q418. Longest Common Subsequence LINK

Q419.	Longest Repeated Subsequence LINK
Q420.	Longest Increasing Subsequence LINK
Q421.	Space Optimized Solution of LCS LINK
Q422.	LCS (Longest Common Subsequence) of three strings LINK
Q423.	Maximum Sum Increasing Subsequence LINK
Q424.	Count all subsequences having product less than K LINK
Q425.	Longest subsequence such that difference between adjacent is one LINK
Q426.	Maximum subsequence sum such that no three are consecutive LINK
Q427.	Egg Dropping Problem LINK
Q428.	Maximum Length Chain of Pairs LINK

Q429. Maximum size square sub-matrix with all 1s LINK
Q430. Maximum sum of pairs with specific difference LINK
Q431. Min Cost PathProblem LINK
Q432. Maximum difference of zeros and ones in binary string LINK
Q433. Minimum number of jumps to reach end LINK
Q434. Minimum cost to fill given weight in a bag LINK
Q435. Minimum removals from array to make max �min <= K LINK
Q436. Longest Common Substring LINK
Q437. Count number of ways to reacha given score in a game LINK
Q438. Count Balanced Binary Trees of Height h LINK
Q439. LargestSum Contiguous Subarray [V>V>V IMP ] LINK

Q440.	Smallest sum contiguous subarray LINK
Q441.	Unbounded Knapsack (Repetition of items allowed) LINK
Q442.	Word Break Problem LINK
Q443.	Largest Independent Set Problem LINK
Q444.	Partition problem LINK
Q445.	Longest Palindromic Subsequence LINK
Q446.	Count All Palindromic Subsequence in a given String LINK
Q447.	Longest Palindromic Substring LINK
Q448.	Longest alternating subsequence LINK
Q449.	Weighted Job Scheduling LINK

Q450. Coin game winner where every player has three choices LINK
Q451. Count Derangements (Permutation such that no element appears in its original position) [ IMPORTANT ] LINK
Q452. Maximum profit by buying and selling a share at most twice [ IMP ] LINK
Q453. Optimal Strategy for a Game LINK
Q454. Optimal Binary Search Tree LINK
Q455. Palindrome PartitioningProblem LINK
Q456. Word Wrap Problem LINK
Q457. Mobile Numeric Keypad Problem [ IMP ] LINK
Q458. Boolean Parenthesization Problem LINK
Q459. Largest rectangular sub-matrix whose sum is 0 LINK
Q460. Largest area rectangular sub-matrix with equal number of 1�s and 0�s [ IMP ] LINK

Q461. Maximum sum rectangle in a 2D matrix LINK
Q462. Maximum profit by buying and selling a share at most k times LINK
Q463. Find if a string is interleaved of two other strings LINK
Q464. Maximum Length of Pair Chain LINK
Bit Manipulation
Q467. Count set bits in an integer LINK
Q468. Find the two non-repeating elements in an array of repeating elements LINK
Q469. Count number of bits to be flipped to convert A to B LINK
Q470. Count total set bits in all numbers from 1 to n LINK
Q471. Program to find whether a no is power of two LINK
Q472. Find position of the only set bit LINK

Q473. Copy set bits in a range LINK

Q474. Divide two integers without using multiplication, division and mod operator LINK

Q475. Calculate square of a number without using \*, / and pow() LINK

Q476. Power Set LINK