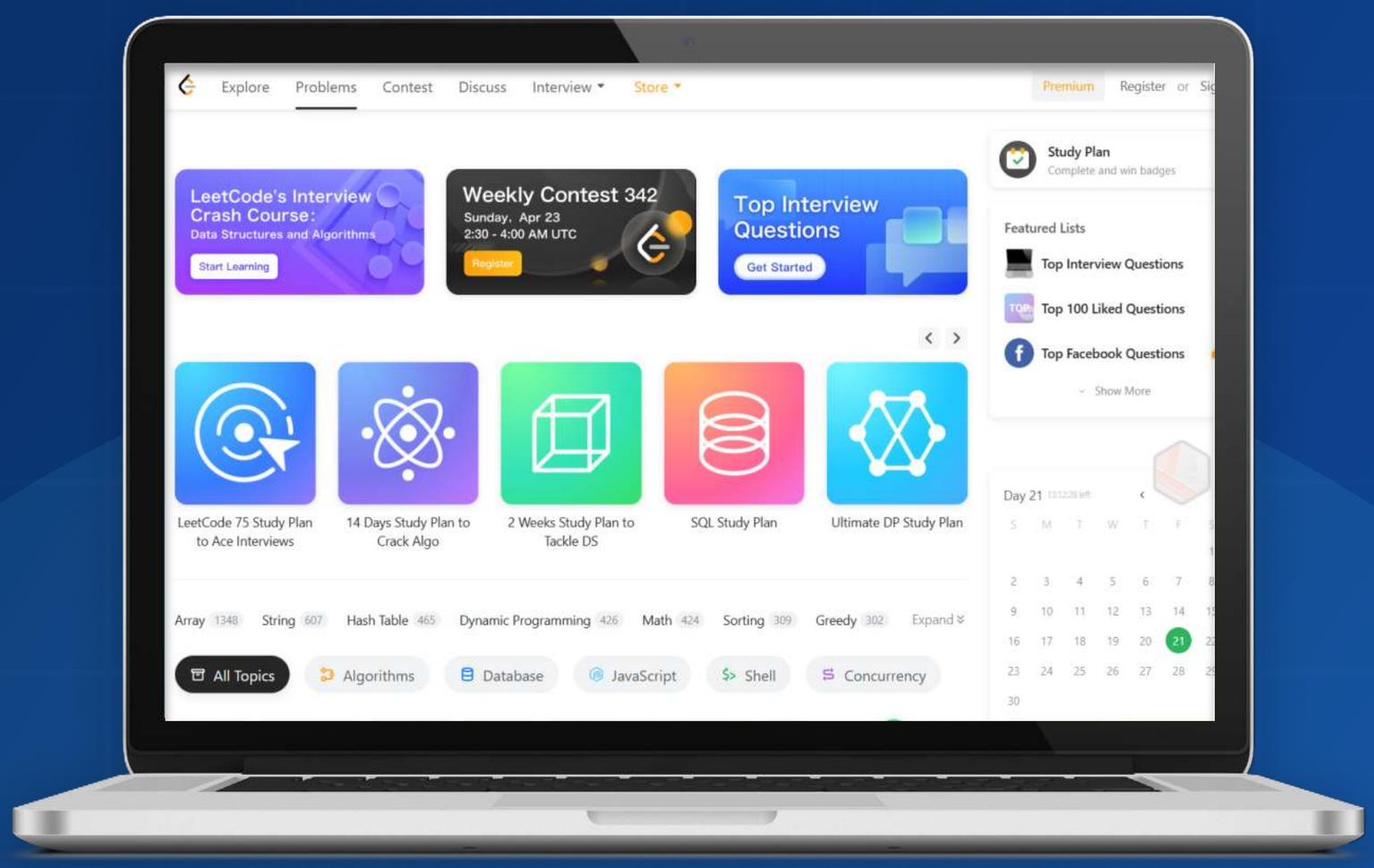
Zero to Advance in DSA

50 DAYS CHALLENGE



BOSSCODER ACADEMY

Disclaimer

Everyone learns uniquely.

What matters is developing the problem solving ability to solve new problems.

This Doc will help you with the same.

DAY 1 #ARRAYS

Given an array of integers and an integer target, return indices of the two numbers such that they add up to target.

Practice Asked in:

DAY 2 #ARRAYS

Given an integer array nums, find the subarray with the largest sum, and return its sum.

Practice Asked in:

DAY 3 #ARRAYS

Given an array nums with n objects colored red, white, or blue, sort them in-place so that objects of the same color are adjacent, with the colors in the order red, white, and blue.

Practice

DAY 4 #ARRAYS

Given an array nums of n integers, return an array of all the unique quadruplets [nums[a], nums[b], nums[c], nums[d]] such that:
0 <= a, b, c, d < n
a, b, c, and d are distinct.
nums[a] + nums[b] + nums[c] + nums[d] == target

Asked in:

DAY 5 #ARRAYS

Given an array of intervals where intervals[i] = [starti, endi], merge all overlapping intervals, and return an array of the non-overlapping intervals that cover all the intervals in the input.

Practice

Asked in:

DAY 6 #STRINGS

Given a string s of '(' , ')' and lowercase English characters.
Your task is to remove the minimum number of parentheses ('(' or ')', in any positions) so that the resulting parentheses string is valid and return any valid string.

Practice

Asked in:

DAY 7 #STRINGS

Given a string s, sort it in decreasing order based on the frequency of the characters. The frequency of a character is the number of times it appears in the string.
Return the sorted string. If there are multiple answers, return any of them.

Practice Asked in:

DAY 8 #STRINGS

Given two strings s1 and s2, return true if s2 contains a permutation of s1, or false otherwise.
In other words, return true if one of s1's permutations is the substring of s2.

Practice Asked in:

DAY 9 #STRINGS

Given a string s, partition s such that every
Substring of the partition is a Palindrome. Return all possible palindrome partitioning of s.

Practice Asked in:

DAY 10 #STRINGS

Given two strings s and t of lengths m and n respectively, return the minimum window
Substring of s such that every character in t (including duplicates) is included in the window. If there is no such substring, return the empty string "".

Practice Asked in:

DAY 11 #RECURSION

Given the head of a linked list and an integer val, remove all the nodes of the linked list that has Node.val == val, and return the new head.

Practice Asked in:

DAY 12 #RECURSION

Given the head of a singly linked list, reverse the list, and return the reversed list.

Practice Asked in:

DAY 13 #RECURSION

Given an integer array nums of unique elements, return all possible Subsets (the power set).
The solution set must not contain duplicate subsets. Return the solution in any order

Practice Asked in:

DAY 14 #RECURSION

Given n pairs of parentheses, write a function to generate all combinations of well-formed parentheses.

Practice Asked in:

DAY 15 #HASHING

Design a data structure that follows the constraints of a Least Recently Used (LRU) cache.

Practice Asked in:

DAY 16 #HASHING

Given an unsorted integer array nums, return the smallest missing positive integer.
You must implement an algorithm that runs in O(n) time and uses constant extra space.

Practice Asked in:

DAY 17 #MATRICES

Given an m x n matrix, return all elements of the matrix in spiral order.

Practice Asked in:

DAY 18 #MATRICES

Determine if a 9 × 9 Sudoku board is valid. Only the filled cells need to be validated according to the following rules:
Each row must contain the digits 1-9 without repetition.
Each column must contain the digits 1-9 without repetition.
Each of the nine 3 × 3 sub-boxes of the grid must contain the digits 1-9 without repetition.

Practice Asked in:

DAY 19 #MATRICES

Given an m x n grid of characters board and a string word, return true if word exists in the grid.
The word can be constructed from letters of sequentially adjacent cells, where adjacent cells are horizontally or vertically neighboring. The same letter cell may not be used more than once.

Practice Asked in:

DAY 20 #LINKED LIST

Given the root of a binary tree, flatten the tree into a "linked list":
The "linked list" should use the same TreeNode class where the right child pointer points to the next node in the list and the left child pointer is always null.
The "linked list" should be in the same order as a pre-order traversal of the binary tree.

Practice Asked in:

DAY 21 #LINKED LIST

Given the head of a singly linked list, return true if it is a palindrome or false otherwise.

Practice Asked in:

DAY 22 #LINKED LIST

Given the head of a linked list, reverse the nodes of the list k at a time, and return the modified list. k is a positive integer and is less than or equal to the length of the linked list. If the number of nodes is not a multiple of k then left-out nodes, in the end, should remain as it is.
You may not alter the values in the list's nodes, only nodes themselves may be changed.

Practice Asked in:

DAY 23 #LINKED LIST

You are given the heads of two sorted linked lists list1 and list2.
Merge the two lists in a one sorted list. The list should be made by splicing together the nodes of the first two lists.
Return the head of the merged linked list.

Practice Asked in:

DAY 24 #LINKED LIST

You are given two non-empty linked lists representing two non-negative integers. The digits are stored in reverse order, and each of their nodes contains a single digit. Add the two numbers and return the sum as a linked list.
You may assume the two numbers do not contain any leading zero, except the number 0 itself.

Practice Asked in:

DAY 25 #LINKED LIST

Given a linked list, swap every two adjacent nodes and return its head. You must solve the problem without modifying the values in the list's nodes (i.e., only nodes themselves may be changed.)

Practice Asked in:

DAY 26 #BIT MANIPULATION AND MATH

You are given two non-empty linked lists representing two non-negative integers. The digits are stored in reverse order, and each of their nodes contains a single digit. Add the two numbers and return the sum as a linked list.
You may assume the two numbers do not contain any leading zero, except the number 0 itself.

Practice Asked in:

DAY 27 #BIT MANIPULATION AND MATH

Given a linked list, swap every two adjacent nodes and return its head. You must solve the problem without modifying the values in the list's nodes (i.e., only nodes themselves may be changed.)

Practice Asked in:

DAY 28 #STACKS AND QUEUES

Given an array of integers heights representing the histogram's bar height where the width of each bar is 1, return the area of the largest rectangle in the histogram.

Practice Asked in:

DAY 29 #STACKS AND QUEUES

Design a stack that supports push, pop, top, and retrieving the minimum element in constant time.

Practice Asked in:

DAY 30 #STACKS AND QUEUES

Implement a last-in-first-out (LIFO) stack using only two queues. The implemented stack should support all the functions of a normal stack (push, top, pop, and empty).

Practice Asked in:

DAY 31 #STACKS AND QUEUES

Implement the BSTIterator class that represents an iterator over the in-order traversal of a binary search tree (BST)

Practice Asked in:

DAY 32 #STACKS AND QUEUES

Given n non-negative integers representing an elevation map where the width of each bar is 1, compute how much water it can trap after raining.

Practice Asked in:

DAY 33 #TREES AND BINARY SEARCH TREES

Given the root of a binary tree, return its maximum depth.
A binary tree's maximum depth is the number of nodes along the longest path from the root node down to the farthest leaf node.

Practice Asked in:

DAY 34 #TREES AND BINARY SEARCH TREES

Given a binary tree, find the lowest common ancestor (LCA) of two given nodes in the tree.

Practice Asked in:

DAY 35 #TREES AND BINARY SEARCH TREES

Given the root of a binary search tree, and an integer k, return the kth smallest value (1-indexed) of all the values of the nodes in the tree.

Practice Asked in:

DAY 36 #TREES AND BINARY SEARCH TREES

Given the root of a binary tree, return the level order traversal of its nodes' values. (i.e., from left to right, level by level).

Practice Asked in:

DAY 37 #TREES AND BINARY SEARCH TREES

You are given the root of a binary tree containing digits from 0 to 9 only.
Each root-to-leaf path in the tree represents a number.
For example, the root-to-leaf path 1 -> 2 -> 3 represents the number 123.Return the total sum of all root-to-leaf numbers. Test cases are generated so that the answer will fit in a 32-bit integer.

Practice Asked in:

DAY 38 #TREES AND BINARY SEARCH TREES

Given the roots of two binary trees root and subRoot, return true if there is a subtree of root with the same structure and node values of subRoot and false otherwise.

Practice Asked in:

DAY 39 #TRIES

A trie (pronounced as "try") or prefix tree is a tree data structure used to efficiently store and retrieve keys in a dataset of strings. There are various applications of this data structure, such as autocomplete and spellchecker. Implement the Trie.

Practice Asked in:

DAY 40 #TRIES

Given an array of strings strs, group the anagrams together. You can return the answer in any order.

Practice Asked in:

DAY 41 #HEAPS

Given the roots of two binary trees root and subRoot, return true if there is a subtree of root with the same structure and node values of subRoot and false otherwise.

Practice Asked in:

DAY 42 #HEAPS

A trie (pronounced as "try") or prefix tree is a tree data structure used to efficiently store and retrieve keys in a dataset of strings. There are various applications of this data structure, such as autocomplete and spellchecker. Implement the Trie.

Practice Asked in:

DAY 43 #GRAPHS

Given is a 2D adjacency list representation of a graph. Check whether the graph is a Bipartite graph.

Practice Asked in:

DAY 44 #GRAPHS

An image is represented by an m x n integer grid image where image[i][j] represents the pixel value of the image.
You are also given three integers sr, sc, and color. You should perform a flood fill on the image starting from the pixel image[sr][sc].

Practice Asked in:

DAY 45 #GRAPHS

Given an m x n 2D binary grid grid which represents a map of '1's (land) and '0's (water), return the number of islands.
An island is surrounded by water and is formed by connecting adjacent lands horizontally or vertically. You may assume all four edges of the grid are all surrounded by water.

Practice Asked in:

DAY 46 #GRAPHS

Given a reference of a node in a connected undirected graph.
Return a deep copy (clone) of the graph.

Practice Asked in:

DAY 47 #GRAPHS

Given an m x n integers matrix, return the length of the longest increasing path in matrix.
From each cell, you can either move in four directions: left, right, up, or down. You may not move diagonally or move outside the boundary (i.e., wrap-around is not allowed).

Practice Asked in:

DAY 48 #DYNAMIC PROGRAMMING

Given an integer array nums, find a subarray that has the largest product, and return the product.

Practice Asked in:

DAY 49 #DYNAMIC PROGRAMMING

Given two strings text1 and text2, return the length of their longest common subsequence. If there is no common subsequence, return 0.

Practice Asked in:

DAY 50 #DYNAMIC PROGRAMMING

There is a robot on an m x n grid. The robot is initially located at the top-left corner (i.e., grid[0][0]). The robot tries to move to the bottom-right corner (i.e., grid[m - 1][n - 1]). The robot can only move either down or right at any point in time.
Given the two integers m and n, return the number of possible unique paths that the robot can take to reach the bottom-right corner.

Practice

Asked in:

BOSSCODER ACADEMY

WHY BOSSCODER?

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