

TOP 30

CODING QUESTIONS

in

amazon



Question 1

Add Binary

Easy

Given two binary strings `a` and `b` return *their sum as a binary string.* `s`

Practice

Question asked in:



Question 2

Diameter of Binary Tree

Easy

Given the `root` of a binary tree, return *the length of the diameter of the tree.*

The diameter of a binary tree is the length of the longest path between any two nodes in a tree. This path may or may not pass through the `root`

Practice

Question asked in:



Anjali Joshi

Data Engineer - L2 at Twilio

From



To



Question 3

Valid Anagram

Easy

Given two strings `s` and `t`, return `true` if `t` is an anagram of `s`, and `false` otherwise.

An **Anagram** is a word or phrase formed by rearranging the letters of a different word or phrase, typically using all the original letters exactly once.

Practice



Question asked in:



Question 4

Binary Search

Easy

Given an array of integers `nums` which is sorted in ascending order, and an integer `target`, write a function to search `target` in `nums`. If `target` exists, then return its index. Otherwise, return `-1`.

You must write an algorithm with $\Theta(\log n)$ runtime complexity.

Practice



Question asked in:



Excellent platform for anyone interested in technology, particularly those who work with computers and programming. One of the best features is their live classes and small batch sizes, which ensure that you receive undivided attention.

Question 5

Longest Palindrome

Easy

Given a string `s` which consists of lowercase or uppercase letters, return the length of the longest palindrome that can be built with those letters.

Letters are case sensitive, for example, "Aa" is not considered a palindrome here.

[Practice](#)

Question asked in:



Question 6

Lowest Common Ancestor of a Binary Search Tree

Easy

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

According to the [definition of LCA on Wikipedia](#): "The lowest common ancestor is defined between two nodes `p` and `q` as the lowest node in `T` that has both `p` and `q` as descendants (where we allow a node to be a descendant of itself)."

[Practice](#)

Question asked in:



Question 7

Flood Fill

Easy

An image is represented by an $m \times n$ 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]`.

Return *the modified image after performing the flood fill*.

Practice

Question asked in:



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Question 8

Balanced Binary Tree

Easy

Given a binary tree, determine if it is height-balanced.

Practice

Question asked in:



Question 9

Linked List Cycle

Easy

Given `head`, the head of a linked list, determine if the linked list has a cycle in it.

There is a cycle in a linked list if there is some node in the list that can be reached again by continuously following the `next` pointer. Internally, `pos` is used to denote the index of the node that tail's `next` pointer is connected to. **Note that `pos` is not passed as a parameter.**

Return `true` if there is a cycle in the linked list. Otherwise, return `false`.

Practice

Question asked in:



Question 10

First Bad Version

Easy

Suppose you have `n` versions `[1, 2, ..., n]` and you want to find out the first bad one, which causes all the following ones to be bad.

You are given an API `bool isBadVersion(version)` which returns whether `version` is bad. Implement a function to find the first bad version.

Practice

Question asked in:



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Question 11

Permutations

Medium

Given an array `nums` of distinct integers, return all the possible permutations. You can return the answer in **any order**.

Practice



Question asked in:



Question 12

Merge Intervals

Medium

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



Question asked in:



The courses well structured, and I use them to learn new things every day as well as revise concepts by solving multiple problems. It also helps you a lot when preparing for an interview because most of the questions were similar to which I solved during the course.

Question 13

Container With Most Water

Medium

You are given an integer array `height` of length `n`. There are `n` vertical lines drawn such that the two endpoints of the i^{th} line are $(i, 0)$ and $(i, \text{height}[i])$

Return *the maximum amount of water a container can store.*

Practice

Question asked in:



Question 14

Kth Smallest Element in a BST

Medium

Given the `root` of a binary search tree, and an integer `k`, return *the k^{th} smallest value (*1-indexed*) of all the values of the nodes in the tree.*

Practice

Question asked in:



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Question 15

K Closest Points to Origin

Medium

Given an array of `points` , where `points[i] = [xi, yi]` represents a point on the X-Y plane and an integer `k` , return the `k` closest points to the origin `(0, 0)`

You may return the answer in **any order.** ,

Practice

Question asked in:



Question 16

Longest Substring Without Repeating Characters

Medium

Given a string `s` find the length of the longest substring without repeating characters.

Practice

Question asked in:



Question 17

3Sum

Medium

Given an integer array `nums`, return all the triplets

`[nums[i], nums[j], nums[k]]` such that `i != j`, `i != k` and `j != k`,
and `nums[i] + nums[j] + nums[k] == 0`

Notice that the solution set must not contain duplicate triplets.

Practice

Question asked in:



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Question 18

Binary Tree Level Order Traversal

Medium

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

Question asked in:



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Question 19

String to Integer (atoi)

Medium

Implement the `myAtoi(string s)` function, which converts a string string to a 32-bit signed integer (similar to C/C++'s atoi function).

Return the integer as the final result.

Practice

Question asked in:



Question 20

Spiral Matrix

Medium

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

Practice

Question asked in:



Avishkar Dalvi

MTS 3 at VMware

From



To

Question 21

Course Schedule

Medium

There are a total of `numCourses` courses you have to take, labeled from `0` to `numCourses - 1`. You are given an array `prerequisites` where `prerequisites[i] = [ai, bi]` indicates that you must take course `bi` first if you want to take course `ai`.

Return `true` if you can finish all courses. Otherwise, return `false`.

Practice

Question asked in:



Question 22

Implement Trie (Prefix Tree)

Medium

Implement the Trie class:

- `Trie()` Initializes the trie object.
- `void insert(String word)` Inserts the string `word` into the trie.
- `boolean search(String word)` Returns `true` if the string `word` is in the trie
- `boolean startsWith(String prefix)` Returns `true` if there is a previously inserted string `word` that has the prefix.

Practice

Question asked in:



Question 23

Clone Graph

Medium

Given a reference of a node in a connected undirected graph.

Return a deep copy (clone) of the graph.

[Practice](#)

Question asked in:



Question 24

Evaluate Reverse Polish Notation

Medium

You are given an array of strings `tokens` that represents an arithmetic expression in a Reverse Polish Notation.

Evaluate the expression. Return an integer that represents the value of the expression.

[Practice](#)

Question asked in:



Basant Pratap Singh
Software Engineer at Google

From

TiDA

To

Google

Question 25

Find Median from Data Stream

Hard

The median is the middle value in an ordered integer list. If the size of the list is even, there is no middle value, and the median is the mean of the two middle values.

- For example, for `arr = [2, 3, 4]`, the median is `3`
- For example, for `arr = [2, 3]`, the median is `(2 + 3) / 2 = 2.5`

Practice

Question asked in:



Question 26

Word Ladder

Hard

A **transformation sequence** from word `beginWord` to word `endWord` using a dictionary `wordList` is a sequence of words

`beginWord -> s1 -> s2 -> ... -> sk` such that:

Given two words, `beginWord` and `endWord`, and a dictionary `wordList`, return the **number of words** in the **shortest transformation sequence** from `beginWord` to `endWord`, or `0` if no such sequence exists.

Practice

Question asked in:



Question 27

Basic Calculator

Hard

Given a string `s` representing a valid expression, implement a basic calculator to evaluate it, and return the result of the evaluation.

Practice

Question asked in:



Question 28

Maximum Profit in Job Scheduling

Hard

We have `n` where every job is scheduled to be done from

`startTime[i]` to `endTime[i]`, obtaining a profit of `profit[i]`

Return the maximum profit you can take such that there are no two jobs in the subset with overlapping time range.

Practice

Question asked in:



Two things I love the most about Tutort Academy. First before enrolling your profile is reviewed by a Data Scientist and Secondly real time projects from companies with small batch size you won't find these two things anywhere.

Question 29

Merge k Sorted Lists

Hard

You are given an array of k linked-lists `lists`, each linked-list is sorted in ascending order.

Merge all the linked-lists into one sorted linked-list and return it.

Practice

Question asked in:



Question 30

Largest Rectangle in Histogram

Hard

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

Question asked in:



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