Must Do Coding Questions for Companies like Amazon, Microsoft, Adobe, ...

Difficulty Level : Medium

As the placement season is back so are we to help you ace the interview. We have selected some most commonly asked and must do practice problems for you.

You can also take part in our *mock placement contests* which will help you learn different topics and practice at the same time, simulating the feeling of a real placement test environment.

Note : Now you can track your progress of these questions Must Do Interview Preparation Course.

Preparing for Prouct-Based Companies ? Check Out **Must Do Coding Questions for Product Based Companies**

Topic :

- Arrays
- String
- Linked List
- Stack and Queue
- Tree and BST
- Heap
- Recursion
- Hashing
- Graph
- Greedy
- Dynamic Programming
- Divide and Conquer
- Backtracking
- Bit Magic

Arrays :

1. Subarray with given sum
2. Count the triplets
3. Kadane's Algorithm
4. Missing number in array
5. Merge two sorted arrays
6. Rearrange array alternatively
7. Number of pairs
8. Inversion of Array

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Got It !

11. Leaders in an array
12. Minimum Platforms
13. Reverse array in groups
14. K'th smallest element
15. Trapping Rain Water
16. Pythagorean Triplet
17. Chocolate Distribution Problem
18. Stock buy and sell
19. Element with left side smaller and right side greater
20. Convert array into Zig-Zag fashion
21. Last Index of 1
22. Spirally traversing a matrix
23. Largest Number formed from an Array

Solved the above? Go for some more Questions

String :

1. Reverse words in a given string
2. Permutations of a given string
3. Longest Palindrome in a String
4. Recursively remove all adjacent duplicates
5. Check if string is rotated by two places
6. Roman Number to Integer
7. Anagram
8. Remove Duplicates
9. Form a Palindrome
10. Longest Distinct Characters in the string
11. Implement Atoi
12. Implement strstr
13. Longest Common Prefix

Solved the above? Go for some more Questions

Linked List :

1. Finding middle element in a linked list
2. Reverse a linked list
3. Rotate a Linked List
4. Reverse a Linked List in groups of given size
5. Intersection point in Y shaped linked lists
6. Detect Loop in linked list
7. Remove loop in Linked List
8. n'th node from end of linked list
9. Flattening a Linked List
10. Merge two sorted linked lists
11. Intersection point of two Linked Lists
12. Pairwise swap of a linked list
13. Add two numbers represented by linked lists
14. Check if Linked List is Palindrome
15. Implement Queue using Linked List
16. Implement Stack using Linked List
17. Given a linked list of 0s, 1s and 2s, sort it
18. Delete without head pointer

Stack and Queue :

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Got It !

2. Next larger element
3. Queue using two Stacks
4. Stack using two queues
5. Get minimum element from stack
6. LRU Cache
7. Circular tour
8. First non-repeating character in a stream
9. Rotten Oranges
10. Maximum of all subarrays of size k

Tree :

1. Print Left View of Binary Tree
2. Check for BST
3. Print Bottom View of Binary Tree
4. Print a Binary Tree in Vertical Order
5. Level order traversal in spiral form
6. Connect Nodes at Same Level
7. Lowest Common Ancestor in a BST
8. Convert a given Binary Tree to Doubly Linked List
9. Write Code to Determine if Two Trees are Identical or Not
10. Given a binary tree, check whether it is a mirror of itself
11. Height of Binary Tree
12. Maximum Path Sum
13. Diameter of a Binary Tree
14. Number of leaf nodes
15. Check if given Binary Tree is Height Balanced or Not
16. Serialize and Deserialize a Binary Tree

Solved the above? Go for some more Questions

Heap :

1. Find median in a stream
2. Heap Sort
3. Operations on Binary Min Heap
4. Rearrange characters
5. Kth largest element in a stream
6. Merge K sorted linked lists
7. Kth largest element in a stream

Recursion :

1. Flood fill Algorithm
2. Number of paths
3. Combination Sum – Part 2
4. Special Keyboard
5. Josephus problem

Hashing :

1. Relative Sorting
2. Sorting Elements of an Array by Frequency
3. Largest subarray with 0 sum
4. Common elements
5. Find all four sum numbers
6. Swapping pairs make sum equal

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Got It !

8. Array Pair Sum Divisibility Problem
9. Longest consecutive subsequence
10. Array Subset of another array
11. Find all pairs with a given sum
12. Find first repeated character
13. Zero Sum Subarrays
14. Minimum indexed character
15. Check if two arrays are equal or not
16. Uncommon characters
17. Smallest window in a string containing all the characters of another string
18. First element to occur k times
19. Check if frequencies can be equal

Graph :

1. Depth First Traversal
2. Breadth First Traversal
3. Detect cycle in undirected graph
4. Detect cycle in a directed graph
5. Topological sort
6. Find the number of islands
7. Implementing Dijkstra
8. Minimum Swaps
9. Strongly Connected Components
10. Shortest Source to Destination Path
11. Find whether path exist
12. Minimum Cost Path
13. Circle of Strings
14. Floyd Warshall
15. Alien Dictionary
16. Snake and Ladder Problem

Greedy :

1. Activity Selection
2. N meetings in one room
3. Coin Piles
4. Maximize Toys
5. Page Faults in LRU
6. Largest number possible
7. Minimize the heights
8. Minimize the sum of product
9. Huffman Decoding
10. Minimum Spanning Tree
11. Shop in Candy Store
12. Geek collects the balls

Dynamic Programming :

1. Minimum Operations
2. Max length chain
3. Minimum number of Coins
4. Longest Common Substring
5. Longest Increasing Subsequence
6. Longest Common Subsequence
7. 0 – 1 Knapsack Problem
8. Maximum sum increasing subsequence
9. Minimum number of jumps

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Got It !

11. Coin Change Problem
12. Subset Sum Problem
13. Box Stacking
14. Rod Cutting
15. Path in Matrix
16. Minimum sum partition
17. Count number of ways to cover a distance
18. Egg Dropping Puzzle
19. Optimal Strategy for a Game
20. Shortest Common Supersequence

Divide and Conquer :

1. Find the element that appears once in sorted array
2. Search in a Rotated Array
3. Binary Search
4. Sum of Middle Elements of two sorted arrays
5. Quick Sort
6. Merge Sort
7. K-th element of two sorted Arrays

Backtracking :

1. N-Queen Problem
2. Solve the Sudoku
3. Rat in a Maze Problem
4. Word Boggle
5. Generate IP Addresses

Bit Magic :

1. Find first set bit
2. Rightmost different bit
3. Check whether K-th bit is set or not
4. Toggle bits given range
5. Set kth bit
6. Power of 2
7. Bit Difference
8. Rotate Bits
9. Swap all odd and even bits
10. Count total set bits
11. Longest Consecutive 1's
12. Sparse Number
13. Alone in a couple
14. Maximum subset XOR

Some More Questions on Arrays :

1. Find Missing And Repeating
2. Maximum Index
3. Consecutive 1's not allowed
4. Majority Element
5. Two numbers with sum closest to zero
6. Nuts and Bolts Problem
7. Boolean Matrix Problem
8. Smallest Positive missing number
9. Jumping Caterpillars

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Got It !

2. CamelCase Pattern Matching
3. String Ignorance
4. Smallest window in a string containing all the characters of another string
5. Design a tiny URL or URL shortener
6. Permutations of a given string
7. Non Repeating Character
8. Check if strings are rotations of each other or not
9. Save Ironman
10. Repeated Character
11. Remove common characters and concatenate
12. Geek and its Colored Strings
13. Second most repeated string in a sequence

Some more Questions on Trees :

1. Mirror Tree
2. Longest consecutive sequence in Binary tree
3. Bottom View of Binary Tree
4. Lowest Common Ancestor in a Binary Tree
5. Binary to DLL

Important Links :

1. Difficulty-wise ordered Coding questions for Interview and Competitive Programming
2. Aptitude questions asked in round 1 : Placements Course designed for this purpose.
3. MCQs asked from different computer science subjects : Subject-Wise Quizzes
4. Interview theory and coding questions of all companies : Company wise all practice questions.
5. Interview experiences of all companies : Interview corner.

Geeksforgeeks Courses:

1. Language Foundation Courses [C++ **/** JAVA **/** Python **]**
Learn any programming language from scratch and understand all its fundamentals concepts for a strong programming foundation in the easiest possible manner with help of GeeksforGeeks Language Foundation Courses – Java Foundation | Python Foundation | C++ Foundation

2. Geeks Classes Live
Get interview-centric live online classes on Data Structure and Algorithms from any geographical location to learn and master DSA concepts for enhancing your problem-solving & programming skills and to crack the interview of any product-based company – Geeks Classes: Live Session

3. Complete Interview Preparation
Get fulfilled all your interview preparation needs at a single place with the *Complete Interview Preparation Course* that provides you all the required stuff to prepare for any product-based, service-based, or start-up company at the most affordable prices.

4. DSA Self Paced
Start learning Data Structures and Algorithms to prepare for the interviews of top IT giants like Microsoft, Amazon, Adobe, etc. with *DSA Self-Paced Course* where you will get to learn and master DSA from basic to advanced level and that too at your own pace and convenience.

5. Company Specific Courses – Amazon**,** Microsoft**,** TCS **&** Wipro
Crack the interview of any product-based giant company by specifically preparing with the questions that these companies usually ask in their coding interview round. Refer GeeksforGeeks Company Specific Courses: Amazon SDE Test Series, etc.

You may also check our latest online course series to learn DS & Algo is named **DSA**, which covers everything about Data Structures from *Basic to Advanced*.

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Got It !