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

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.

Topic :

Arrays :

1. Subarray with given sum
2. Kadane's Algorithm
3. Missing number in array
4. Subarray with given sum
5. Sort an array of 0s, 1s and 2s
6. Equilibrium point
7. Maximum sum increasing subsequence
8. Leaders in an array
9. Minimum Platforms
10. Maximum of all subarrays of size k
11. Reverse array in groups
12. K'th smallest element
13. Trapping Rain Water
14. Pythagorean Triplet
15. Chocolate Distribution Problem
16. Stock buy and sell

17. Element with left side smaller and right side greater
18. Convert array into Zig-Zag fashion
19. Find the element that appears once in sorted array
20. Kth largest element in a stream
21. Relative Sorting
22. Spirally traversing a matrix
23. Sorting Elements of an Array by Frequency
24. Largest Number formed from an Array
25. Largest subarray of 0's and 1's

Solved the above? Go for some more Questions

String :

1. Parenthesis Checker
2. Reverse words in a given string
3. Permutations of a given string
4. Longest Palindrome in a String
5. Recursively remove all adjacent duplicates
6. Check if string is rotated by two places
7. Roman Number to Integer
8. Anagram
9. Longest Common Substring
10. Remove Duplicates
11. Form a Palindrome
12. Longest Distinct Characters in the string
13. Implement Atoi
14. Implement strstr
15. 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. Detect Loop in linked list
6. Remove loop in Linked List
7. n’th node from end of linked list
8. Flattening a Linked List
9. Merge two sorted linked lists
10. Intersection point of two Linked Lists
11. Pairwise swap of a linked list
12. Add two numbers represented by linked lists
13. Check if Linked List is Palindrome
14. Implement Queue using Linked List
15. Implement Stack using Linked List
16. Given a linked list of 0s, 1s and 2s, sort it
17. Delete without head pointer

Stack and Queue :

1. Next larger element
2. Queue using two Stacks
3. Stack using two queues
4. Get minimum element from stack
5. LRU Cache
6. Circular tour
7. First non-repeating character in a stream
8. Rotten Oranges

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

Recursion :

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

Hashing :

1. Largest subarray with 0 sum
2. Swapping pairs make sum equal
3. Count distinct elements in every window

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

Graph :

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

Greedy :

1. Activity Selection
2. N meetings in one room

3. Coin Piles
4. Minimum number of Coins
5. Maximize Toys
6. Page Faults in LRU
7. Largest number possible
8. Minimize the heights
9. Minimize the sum of product
10. Huffman Decoding
11. Max length chain
12. Minimum Spanning Tree
13. Minimum Operations
14. Shop in Candy Store
15. Geek collects the balls

Dynamic Programming :

1. Longest Increasing Subsequence
2. Longest Common Subsequence
3. 0 – 1 Knapsack Problem
4. Minimum number of jumps
5. Edit Distance
6. Coin Change Problem
7. Subset Sum Problem
8. Box Stacking
9. Rod Cutting
10. Path in Matrix
11. Minimum sum partition
12. Count number of ways to cover a distance
13. Egg Dropping Puzzle
14. Optimal Strategy for a Game
15. Shortest Common Supersequence

Divide and Conquer :

1. Binary Search
2. Quick Sort

3. Merge Sort
4. Find the element that appears once in sorted array
5. K-th element of two sorted Arrays
6. Last index of One

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. Most frequent word in an array of strings
2. Most frequent word in an array of strings
3. Find Missing And Repeating
4. Maximum Index

5. Search in a Rotated Array
6. Sum of Middle Elements of two sorted arrays
7. Consecutive 1's not allowed
8. Majority Element
9. Two numbers with sum closest to zero
10. Nuts and Bolts Problem
11. Boolean Matrix Problem
12. K'th smallest element
13. Find all four sum numbers
14. Common elements
15. Smallest Positive missing number
16. Count the triplets
17. Maximum Index
18. Jumping Caterpillars

Some More Questions on Strings :

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

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.

Additional Resources

- Cracking the Coding Interview : 189 Programming Questions and Solutions
- Data Structures and Algorithms Made Easy
- Head First Design Patterns, 10th Anniversary Edition (Covers Java 8) : A Brain-Friendly Guide
- Introduction to Algorithms 3rd Edition
- Operating System Concepts 8 Edition

Online Interview Preparation Course (Free)

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- How to attempt Function Coding Questions?
- Amazon's most asked interview questions
- Amazon’s most frequently asked interview questions | Set 2
- Guide for Non-CS students to get placed in Software companies
- What is the future of those students who are getting selected in mass recruiting companies
- Practice for cracking any coding interview
- How to answer a coding question in an Interview?
- Top 25 Interview Questions
- SQL Interview Questions
- Top 10 algorithms in Interview Questions
- Top 10 algorithms in Interview Questions | Set 2
- How to read Competitive Programming Questions?
- Frequently Asked Questions regarding Placements
- Interview Questions for Java Professionals