

Data Structures & Algorithms challenges for interviews

[beginners - intermediates]

Newbie EASY

1. Running Sum of 1d Array
2. Fibonacci Number
3. Shuffle the Array
4. Search Insert Position
5. Pascal's Triangle
6. Reverse String
7. Matrix Diagonal Sum
8. Reverse Integer
9. Jewels and Stones
10. Kids With the Greatest Number of Candies
11. Maximum Product of Two Elements in an Array
12. **Merge Sorted Array**

Set of challenges for beginners to start with, who have knowledge of programming but new to DSA

Warm Up EASY - MEDIUM

1. **Missing Number**
2. Majority Element
3. Single Number
4. Rotate Array
5. **Two Sum**
6. Move Zeroes
7. Squares of a Sorted Array
8. Maximum Subarray
9. Search in Rotated Sorted Array
10. Product of Array Except Self
11. How Many Numbers Are Smaller Than the Current Number
12. **Best Time to Buy and Sell Stock**

Set of challenges for those who have the understanding of various data structures and algorithm basics

Array 1D

MEDIUM

1. **Container With Most Water**
2. House Robber
3. Sort Colors
4. Subsets
5. Combination Sum
6. **3 Sum**
7. Find the Duplicate Number
8. **Coin Change**
9. Jump Game
10. Kth Largest Element in an Array
11. Longest Increasing Subsequence
12. Maximum Product Subarray

Set of challenges which majorly uses 1 dimensional array

Array 2D

MEDIUM

1. Search a 2D Matrix
2. **Spiral Matrix**
3. Flipping an Image
4. Unique Paths
5. Word Search
6. Set Matrix Zeroes
7. **Number of Islands**
8. Minimum Path Sum
9. Path With Minimum Effort
10. Course Schedule
11. Merge Intervals
12. Non-overlapping Intervals

Set of challenges which majorly uses 2 dimensional array

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- Highlighted challenges are the ones that are frequent & popular
 - Use any programming language to solve these questions
 - The challenges are not categorized according to the implementation [ex: Binary search, BFS, etc.] to reduce the biased thinking

Strings

EASY

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MEDIUM

1. Ransom Note
2. **Valid Parentheses**
3. Check if the Sentence Is Pangram
4. Valid Anagram
5. Longest Common Prefix
6. Reverse Only Letters
7. First Unique Character in a String
8. Palindromic Substrings
9. **Longest Substring Without Repeating Characters**
10. Longest Palindromic Substring
11. Group Anagrams
12. Generate Parentheses

Set of challenges on strings and its manipulations

Linked List

EASY

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MEDIUM

1. **Middle of the Linked List**
2. Merge Two Sorted Lists
3. Remove Duplicates from Sorted List
4. **Linked List Cycle**
5. Intersection of Two Linked Lists
6. **Reverse Linked List**
7. Add Two Numbers
8. Palindrome Linked List
9. Swapping Nodes in a Linked List
10. Odd Even Linked List
11. Reorder List
12. Remove Nth Node From End of List

Set of challenges linked list and its manipulation

- It is recommended for beginners to solve the questions in the order given and intermediates may follow the order they wish
- Challenges are a mixture of different DS&A to maximize your exposure to a variety of problem-solving techniques

Binary Trees

EASY

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MEDIUM

1. Path Sum
2. **Invert Binary Tree**
3. Cousins in Binary Tree
4. Diameter of Binary Tree
5. Binary Tree Paths
6. Average of Levels in Binary Tree
7. **Maximum Depth of Binary Tree**
8. Merge Two Binary Trees
9. Same Tree
10. Sum of Left Leaves
11. Leaf-Similar Trees
12. Symmetric Tree

Set of challenges on trees [binary + n-ary trees]

Binary Search Trees

EASY

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MEDIUM

1. Range Sum of BST
2. **Search in a Binary Search Tree**
3. Minimum Absolute Difference in BST
4. Minimum Distance Between BST Nodes
5. **Lowest Common Ancestor of a Binary Search Tree**
6. **Validate Binary Search Tree**

Set of challenges on BST and its manipulation

- It is recommended to practice different types of search and sorting algorithms before approaching the medium difficulty challenges for beginners
- This is not an exhaustive list of DSA challenges. Solving all these problems will give good grip and thinking capabilities for interviews
- These problems may seem difficult initially to beginners and might look easy for those who are already solving such challenges
- All the questions can be solved from Leetcode platform
- **This set of challenges are for everyone [Developers, QA, DevOps, Freshers]**

