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Top 100 Data Structure and Algorithms DSA Interview Questions Topic-wise

Last Updated : 15 Jun, 2024

DSA has been one of the most popular go-to topics for any interview, be it college placements, software developer roles, or any other technical roles for freshers and experienced to land a decent job. If you are among them, you already know that it is not easy to find the best DSA interview questions among the vast pool of available problems. So here we are, with the **Top 100 most asked DSA interview questions** to help you sail through your technical rounds.



Top 100 Data Structure and Algorithms (DSA) Interview Questions Topic-wise

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In this Top 100 DSA interview questions, we have segregated the problems based on the Data structure or algorithm used to solve them. Without further delay, let us begin your interview preparations:

DSA Interview Questions on Array

- [Check if pair with the given Sum exists in Array](#)
- [Best Time to Buy and Sell Stock](#)
- [Find duplicates](#)
- [Product of Array Except Self](#)
- [Maximum Subarray](#)
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- [Find Minimum in Rotated Sorted Array](#)
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- [3 Sum](#)
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- [Trapping Rain Water](#)
- [Chocolate Distribution Problem](#)
- [Insert Interval](#)
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- [Non-overlapping Intervals](#)

DSA Interview Questions on Matrix

- [Set Matrix Zeroes](#)
- [Spiral Matrix](#)
- [Program to find the transpose of a matrix](#)

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4. [Word Search](#)

DSA Interview Questions on String

1. [Longest Substring Without Repeating Characters](#)
2. [Longest Repeating Character Replacement](#)
3. [Smallest window in a String containing all characters of other String](#)
4. [Check whether two Strings are anagram of each other](#)
5. [print all anagrams together](#)
6. [Check if given Parentheses expression is balanced or not](#)
7. [Sentence Palindrome](#)
8. [Longest Palindromic Substring](#)
9. [Palindromic Substrings](#)
10. [Longest Common Prefix](#)

DSA Interview Questions on Linked List

1. [Reverse a Linked List](#)
2. [Detect Cycle in a Linked List](#)
3. [Merge Two Sorted Lists](#)
4. [Merge K Sorted Lists](#)
5. [Remove Nth Node From End Of List](#)
6. [Reorder List](#)
7. [Add 1 to a number represented as linked list](#)
8. [Find the middle of a given linked list](#)
9. [Delete last occurrence of an item from linked list](#)

DSA Interview Questions on Stack & Queue

1. [Convert Infix expression to Postfix expression](#)
2. [Next Greater Element](#)
3. [Delete middle element of a stack](#)
4. [Check mirror in n-ary tree](#)
5. [The Celebrity Problem](#)
6. [Length of the longest valid substring](#)
7. [Print Right View of a Binary Tree](#)
8. [Find the first circular tour that visits all petrol pumps](#)

DSA Interview Questions on Tree

1. [Maximum Depth of Binary Tree](#)
2. [Check if two trees have same structure](#)
3. [Invert/Flip Binary Tree](#)
4. [Binary Tree Maximum Path Sum](#)
5. [Binary Tree Level Order Traversal](#)
6. [Serialize and Deserialize Binary Tree](#)
7. [Subtree of Another Tree](#)
8. [Construct Binary Tree from Preorder and Inorder Traversal](#)
9. [Validate Binary Search Tree](#)
10. [Kth Smallest Element in a BST](#)
11. [Lowest Common Ancestor of BST](#)
12. [Implement Trie \(Prefix Tree\)](#)
13. [Add and Search Word](#)

DSA Interview Questions on Heap

1. [Top K Frequent Elements](#)
2. [Find Median from Data Stream](#)
3. [Largest triplet product in a stream](#)
4. [Connect n ropes with minimum cost](#)

DSA Interview Questions on Graph

1. [Clone Graph](#)
2. [Course Schedule](#)
3. [Pacific Atlantic Water Flow](#)
4. [Number of Islands](#)
5. [Longest Consecutive Sequence](#)
6. [Snake and Ladder Problem](#)

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7. [Detect Cycle in a Directed Graph](#)
8. [Bridges in a graph](#)
9. [Check whether a given graph is Bipartite or not](#)
10. [Find size of the largest region in Boolean Matrix](#)
11. [Flood fill Algorithm](#)
12. [Strongly Connected Components](#)
13. [Topological Sorting](#)

DSA Interview Questions on Dynamic Programming

1. [Count ways to reach the n'th stair](#)
2. [Coin Change](#)
3. [0/1 Knapsack Problem](#)
4. [Longest Increasing Subsequence](#)
5. [Longest Common Subsequence](#)
6. [Word Break Problem](#)
7. [Dice Throw](#)
8. [Egg Dropping Puzzle](#)
9. [Matrix Chain Multiplication](#)
10. [Combination Sum](#)
11. [Subset Sum Problem](#)
12. [Find maximum possible stolen value from houses](#)
13. [Count Possible Decodings of a given Digit Sequence](#)
14. [Unique paths in a Grid with Obstacles](#)
15. [Jump Game](#)
16. [Cutting a Rod](#)
17. [Maximum Product Cutting](#)
18. [Count number of ways to cover a distance](#)

DSA Interview Questions on Bit Manipulations

1. [Number of 1 Bits](#)
2. [Counting Bits](#)
3. [Missing Number](#)
4. [Reverse Bits](#)
5. [Find XOR of all subsets of a set](#)

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Search in a Row-wise and Column-wise Sorted 2D Array using Divide and...

Given an $n \times n$ matrix, where every row and column is sorted in increasing order. Given a key, how to decide whether this key is in the matrix. A linear...

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Given a $n \times n$ matrix. The problem is to sort the matrix row-wise and column-wise. Examples: Input : $mat[][] = \{ \{4, 1, 3\}, \{9, 6, 8\}, \{5, 2, 7\} \}$ Output : 1 3 4 2...

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Largest row-wise and column-wise sorted sub-matrix

Given an $N * M$ matrix $mat[][]$, the task is to find the area-wise largest rectangular sub-matrix such that each column and each row of the sub-matri...

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Maximum sum of any submatrix of a Matrix which is sorted row-wise an...

Given a matrix $mat[][]$ whose elements are sorted both row-wise and column-wise. The task is to find the maximum sum of any submatrix from the given...

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Javascript Program to Sort the matrix row-wise and column-wise

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Encode given String by inserting in Matrix column-wise and printing it...

Given a string S and an integer R , the task is to encode the string by first filling each character in column wise manner from top to bottom in a matrix having ...

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Count number of islands where every island is row-wise and column-wis...

Given a rectangular matrix which has only two possible values 'X' and 'O'. The values 'X' always appear in form of rectangular islands and these islands are...

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Count Negative Numbers in a Column-Wise and Row-Wise Sorted Matrix

Find the number of negative numbers in a column-wise / row-wise sorted matrix $M[][]$. Suppose M has n rows and m columns. Example: Input: $M = [-3, ...$

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