



# DSA in Java Open source

*Everything in computer science starts with a zero*

## 1. Leetcode Level Wise interview preparation questions:

Explore - LeetCode

This is LeetCode's official curated list of Top classic interview questions to help you land your dream job. Our top interview questions are divided into the following series: to help you master Data Structure & Algorithms and improve

 <https://leetcode.com/explore/interview/card/top-interview-questions-easy/>



## 2. DSA Theory Questions:

1. How do you find the missing number in a given integer array of 1 to 100? ([solution](#))
2. How do you find the duplicate number on a given integer array? ([solution](#))
3. How do you find the largest and smallest number in an unsorted integer array? ([solution](#))
4. How do you find all pairs of an integer array whose sum is equal to a given number? ([solution](#))
5. How do you find duplicate numbers in an array if it contains multiple duplicates? ([solution](#))
6. How are duplicates removed from a given array in Java? ([solution](#))
7. How is an integer array sorted in place using the quicksort algorithm? ([solution](#))
8. How do you remove duplicates from an array in place? ([solution](#))
9. How do you reverse an array in place in Java? ([solution](#))
10. How are duplicates removed from an array without using any library? ([solution](#))
11. How do you find the middle element of a singly linked list in one pass? ([solution](#))

12. How do you check if a given linked list contains a cycle? How do you find the starting node of the cycle? ([solution](#))
13. How do you reverse a linked list? ([solution](#))
14. How do you reverse a singly linked list without recursion? ([solution](#))
15. How are duplicate nodes removed in an unsorted linked list? ([solution](#))
16. How do you find the length of a singly linked list? ([solution](#))
17. How do you find the third node from the end in a singly linked list? ([solution](#))
18. How do you find the sum of two linked lists using Stack? ([solution](#))
19. How do you print duplicate characters from a string? ([solution](#))
20. How do you check if two strings are anagrams of each other? ([solution](#))
21. How do you print the first non-repeated character from a string? ([solution](#))
22. How can a given string be reversed using recursion? ([solution](#))
23. How do you check if a string contains only digits? ([solution](#))
24. How are duplicate characters found in a string? ([solution](#))
25. How do you count the number of vowels and consonants in a given string? ([solution](#))
26. How do you count the occurrence of a given character in a string? ([solution](#))
27. How do you find all the permutations of a string? ([solution](#))
28. How do you reverse words in a given sentence without using any library method? ([solution](#))
29. How do you check if two strings are a rotation of each other? ([solution](#))
30. How do you check if a given string is a palindrome? ([solution](#))
31. How is a binary search tree implemented? ([solution](#))
32. How do you perform preorder traversal in a given binary tree? ([solution](#))
33. How do you traverse a given binary tree in preorder without recursion? ([solution](#))
34. How do you perform an inorder traversal in a given binary tree? ([solution](#))
35. How do you print all nodes of a given binary tree using inorder traversal without recursion? ([solution](#))
36. How do you implement a postorder traversal algorithm? ([solution](#))
37. How do you traverse a binary tree in postorder traversal without recursion? ([solution](#))
38. How are all leaves of a binary search tree printed? ([solution](#))

39. How do you count the number of leaf nodes in a given binary tree? ([solution](#))
40. How do you perform a binary search in a given array? ([solution](#))
41. How is a bubble sort algorithm implemented? ([solution](#))
42. How is an iterative quicksort algorithm implemented? ([solution](#))
43. How do you implement an insertion sort algorithm? ([solution](#))
44. How is a merge sort algorithm implemented? ([solution](#))
45. How do you implement a bucket sort algorithm? ([solution](#))
46. How do you implement a counting sort algorithm? ([solution](#))
47. How is a radix sort algorithm implemented? ([solution](#))
48. How do you swap two numbers without using the third variable? ([solution](#))
49. How do you check if two rectangles overlap with each other? ([solution](#))
50. How do you design a vending machine? ([solution](#))

### 3. Linked List Questions:

40+ linked list questions and solutions (easy, medium, hard)

To ace your coding interview for a software engineering job, you'll need to understand linked lists. They come up frequently in coding interviews and are fundamental to many other data structures too. Let's take a look at some typical

 <https://igotanooffer.com/blogs/tech/linked-list-interview-questions>



### 4. 500+ Data Structures and Algorithms Interview Questions & Practice Problems:

500+ Data Structures and Algorithms Interview Questions & Practice Problems

Array. "500+ Data Structures and Algorithms Interview Questions & Practice Problems" is published by Coding Freak in Techie Delight.

<https://medium.com/techie-delight/500-data-structures-and-algorithms-practice-problems-35afe8a1e222>

```

9  template<typename T>
10 unsigned int levenshtein(const vector<unsigned int> col, const vector<unsigned int> prevCol, int len1, int len2) {
11     vector<unsigned int> col(len2+1), prevCol(len2+1);
12     for (unsigned int i = 0; i < len1; i++) {
13         prevCol[i] = i;
14         for (unsigned int j = 0; j < len2; j++) {
15             col[j] = i+j;
16             for (unsigned int k = 0; k < len2; k++) {
17                 col[j+k] = std::min( std::min(prevCol[j] + 1, prevCol[j+1] + 1), prevCol[j+k] + (col[j] == col[j+k]) );
18             }
19             col.swap(prevCol);
20         }
21     }
22     return prevCol[len2];
23 }

```