

# **Data Structures and Algorithms (DSA) Questions**

## **Easy Questions:**

1. Implement a function to reverse a string without using built-in reverse functions.
2. Write a program to find the maximum and minimum element in an array.
3. Implement a function to check whether a given number is a palindrome.

## **Moderate Questions:**

4. Implement a program to perform binary search on a sorted array.
5. Write a function to find the first non-repeating character in a string.
6. Implement an algorithm to find the intersection of two sorted arrays.

## **Hard Questions:**

7. Implement a program to solve the N-Queens problem using backtracking.
8. Write a function to detect a cycle in a directed graph using DFS.
9. Implement an algorithm to find the maximum subarray sum using Kadane's Algorithm.