Most Important Array Manipulation Questions asked in the interviews

 **Find the Maximum and Minimum**

* Given an array of integers, write a program to find the maximum and minimum elements without using built-in methods like Max or Min.

 **Count Even and Odd Numbers**

* Write a program that takes an array of integers and counts the number of even and odd numbers separately.

 **Reverse the Array**

* Given an array of characters, reverse the array in-place without using any built-in methods for reversal.

 **Check for Duplicates**

* Given an array of integers, write code to check if there are any duplicate elements. If duplicates are found, print them along with their frequency.

 **Sort Array in Ascending and Descending Order**

* Write code to sort an array of integers in ascending order without using Array.Sort() or LINQ methods. Repeat for descending order.

 **Find Second Largest Element**

* Given an array of numbers, find the second largest number without sorting the array or using LINQ.

 **Merge Two Sorted Arrays**

* Write a program to merge two sorted arrays into a single sorted array without using LINQ.

 **Sum of Elements at Even and Odd Indices**

* Given an array, find the sum of elements at even indices separately from the sum of elements at odd indices.

 **Remove Duplicates**

* Given an array of integers, create a new array that contains only unique elements from the original array without using Distinct().

 **Shift Elements of an Array**

* Write a program that shifts all elements of an array to the right by one position, with the last element wrapping around to the first position.

 **Calculate Product of All Elements Except Self**

* Given an array of integers, write a program to calculate a new array where each element at index i is the product of all elements except the one at i.

 **Count the Occurrences of Each Character**

* Given a character array, count the occurrences of each character and display the results.

 **Move All Zeros to the End**

* Given an integer array, move all zeroes to the end while maintaining the relative order of non-zero elements.

 **Find All Pairs with a Given Sum**

* Given an array of integers and a target sum, find all pairs of elements in the array that add up to the target sum.

 **Separate Positive and Negative Numbers**

* Write a program to rearrange an array so that all positive numbers are on one side and all negative numbers are on the other, without sorting the array.