1-D Array Assignments

## Assignment 1: Array Basics – Input and Display

Write a Java program to:  
- Accept 10 integers from the user and store them in an array.  
- Display the elements of the array.

## Assignment 2: Array Sum and Average

Create a Java program to:  
- Take an array of 8 integers as input.  
- Find and print the sum and average of all array elements.

## Assignment 3: Maximum and Minimum Element

Write a program to:  
- Accept 6 numbers into an array.  
- Display the maximum and minimum values from the array.

## Assignment 4: Count Even and Odd Numbers

Write a Java program that:  
- Takes `n` numbers in an array.  
- Counts and prints the number of even and odd elements.

## Assignment 5: Reverse the Array

Develop a program to:  
- Read 5 numbers into an array.  
- Print the array in reverse order.

## Assignment 6: Linear Search

Implement a program that:  
- Accepts 10 integers in an array.  
- Asks the user to enter an element to search for.  
- Performs linear search and prints the index if found, else displays a message.

## Assignment 7: Duplicate Elements Detection

Write a Java program to:  
- Accept an array of 10 integers.  
- Find and display all duplicate elements in the array.

## Assignment 8: Array Sorting (Ascending Order)

Create a program to:  
- Take an array of 7 elements.  
- Sort the array in ascending order using a simple sorting algorithm (like bubble sort).  
- Print the sorted array.

## Assignment 9: Merge Two Arrays

Write a Java program that:  
- Takes two 1-D arrays from the user (both of size 5).  
- Merges both arrays into a third array.  
- Displays the merged array.

## Assignment 10: Frequency of Elements

Write a Java program to:  
- Input an array of `n` elements.  
- Count and display the frequency of each unique element in the array.

## Assignment 11: Second Largest Element

Write a Java program to:  
- Accept `n` elements in an array.  
- Find and print the second largest element in the array.

## Assignment 12: Remove Duplicate Elements

Develop a program that:  
- Accepts an array from the user.  
- Removes duplicate elements.  
- Displays the array after removing duplicates.

## Assignment 13: Palindrome Numbers in Array

Write a program that:  
- Accepts `n` integers in an array.  
- Displays only the numbers which are palindromes (like 121, 454).

## Assignment 14: Sum of Prime Numbers in Array

Create a Java program to:  
- Accept `n` integers in an array.  
- Find and print the sum of all prime numbers from the array.

## Assignment 15: Insert an Element at Specific Position

Create a program that:  
- Takes an array and a number as input.  
- Inserts the number at a user-specified index.  
- Displays the new array.