Experiment - 6.
Demonstrating Array Operations in Java.

Write a Java program to find the largest number in an array. The program should take an integer array as input from the user and display the largest number. Implement handling for edge cases such as an empty array.

Aim:-

To demonstrate array manipulation techniques in Java. Such as finding the largest number in an array

Objective:-

To understand how arrays work in Java and how to perform operations on arrays, such as finding the maximum value.

Program:-

```
import java.util.Scanner;
public class Array Ex {
    public static void main (string [] args){
        Scanner Sc = new Scanner (system.in);
        int n;
        System.out.println ("Enter size of array");
```

```
n = sc.nextInt();
if (n==0){
    System.out.println("Array is empty");
    return;
}

int [] arr = new int [n];
System.out.println("Enter elements of
                        array ");
for (int i=0; i<n; i++){
    arr[i] = sc.nextInt();
}

int max = arr[0];
for (int i=0; i<m; i++){
    if (arr[i] > max){
        max = arr[i];
    }}
System.out.println("Largest number in
                array : " +max);
}
}.
```

Test cases :-

Test case :1

→ Test Name:- Largest Number in Positive
array.
→ Input :- Array = { 2, 3, 5, 1, 4}
→ Expected result :- "Largest number in the
array : 5 "

→ Actual result:- "Largest number in array : 5 "

→ Pass/Faill :- Pass.

Test case :2

→ Test case :- Empty Array,

→ Input : Array = {}

→ Expected result : "Array is empty !"

→ Actual result:- "Array is empty!"

→ Pass/Faill :- Pass.

Test case :3.

→ Test Name:- Array with Negative numbers

→ Input :- Array = {-3, -5, -2, -1}

→ Expected result:- "Largest number in array :-1"

→ Actual result:- "Largest number in array :- -1 "

→ Pass/Faill :- Pass.

Conclusion.

This program demonstrates how to manipulate arrays in Java. It finds the largest number in the array by comparing each element. The program also highlights the importance of handling edge cases like empty arrays.

Vais
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