Experiment-1

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Question 1.1

1. Aim: Given an array of integers, find the sum of its elements. For example, if the array, so return.

2. Objective: Calculate the sum of all the elements in a given array of integers.

3. Implementation/Code:

```
import java.io.*;
public class sumofarray
{
public static void main (String[] args) { int
arr[] = {2, 9, 7, 5};
        int sum = 0;
        for (int i = 0; i < arr.length; i++) {
            sum = sum + arr[i];
        }
        System.out.print("SUM OF ARRAY IS: "+sum);}}
```

4. Output:

```
PS E:\CU Study\22CSP 314 AP\exp1> cd "e:\CU Study\22CSP 314 AP\exp1\" ; if (
 }
SUM OF ARRAY IS: 23
PS E:\CU Study\22CSP 314 AP\exp1>
```

Question 1.2

1. Aim : Given a square matrix, calculate the absolute difference between the sums of its diagonals. For example, the square matrix is shown below:1 2 3 4 5 6 9 8 9 .The left-to- right diagonal =. The right to left diagonal =. Their absolute difference is.

2. Objective : Calculate the absolute difference between the sums of the two diagonals in a square matrix.

3. Implementation/Code :

```
import java.util.Scanner;
public class DiagonalSum {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.print("Enter the size of the matrix (n x n): ");
        int n = sc.nextInt();
        int[][] arr = new int[n][n];

        System.out.println("Enter the elements of the matrix:");
        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                arr[i][j] = sc.nextInt();
            }
        }
        int d1 = 0;
        int d2 = 0;

        for (int i = 0; i < n; i++) {
            for (int j = 0; j < n; j++) {
                if (i == j) {
                    d1 = d1 + arr[i][j];
                }
                if (i+j == n - 1) {
                    d2 = d2 + arr[i][j];
```

```
            }
        }
    }

    int result = d1 - d2;
    result = Math.abs(result);
    System.out.print("DIAGONAL DIFFERENCE: "+result);

  }
}
```

4. Output: