Experiment 6

Write a Program in Java to add two matrices. The objective of this assignment is to learn Arrays in Java

```java
import java.util.Scanner;

public class Matrix{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        // Input matrix dimensions
        System.out.print("Enter number of rows: ");
        int rows = sc.nextInt();
        System.out.print("Enter number of columns: ");
        int cols = sc.nextInt();

        // Declare matrices
        int[][] matrix1 = new int[rows][cols];
        int[][] matrix2 = new int[rows][cols];
        int[][] sum = new int[rows][cols];

        // Input matrix 1
        System.out.println("Enter elements of Matrix 1:");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                matrix1[i][j] = sc.nextInt();
            }
        }

        // Input matrix 2
        System.out.println("Enter elements of Matrix 2:");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                matrix2[i][j] = sc.nextInt();
            }
        }

        // Add matrices
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                sum[i][j] = matrix1[i][j] + matrix2[i][j];
            }
        }

        // Print result
        System.out.println("Resultant Matrix (Sum):");
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                System.out.print(sum[i][j] + " ");
            }
            System.out.println();
        }

        sc.close();
    }
}

```

```
Output:

Enter number of rows: 2
Enter number of columns: 2
Enter elements of Matrix 1:
1
3
4
2
Enter elements of Matrix 2:
3
4
2
1
Resultant Matrix (Sum):
4 7
6 3
```