Description:
Write a Java program to perform addition, subtraction, and multiplication on two matrices. The program should:

- **Check the dimensions of the matrices to ensure valid operations.**

```
import java.util.Scanner;

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

      System.out.print("Enter rows and columns: ");
      int rows = sc.nextInt();
      int cols = sc.nextInt();

      int[][] a = new int[rows][cols];
      int[][] b = new int[rows][cols];
      int[][] sum = new int[rows][cols];
      int[][] diff = new int[rows][cols];
      int[][] prod = new int[rows][cols];

      System.out.println("Enter first matrix:");
      for (int i = 0; i < rows; i++)
         for (int j = 0; j < cols; j++)
            a[i][j] = sc.nextInt();

      System.out.println("Enter second matrix:");
      for (int i = 0; i < rows; i++)
         for (int j = 0; j < cols; j++)
            b[i][j] = sc.nextInt();

      System.out.println("Addition and Subtraction:");
      for (int i = 0; i < rows; i++) {
         for (int j = 0; j < cols; j++) {
            sum[i][j] = a[i][j] + b[i][j];
            diff[i][j] = a[i][j] - b[i][j];
            System.out.print(sum[i][j] + " ");
         }
         System.out.println();
      }
      System.out.println("Subtraction:");
      for (int i = 0; i < rows; i++) {
         for (int j = 0; j < cols; j++)
            System.out.print(diff[i][j] + " ");
         System.out.println();
      }

      System.out.println("Multiplication:");
```

```
        for (int i = 0; i < rows; i++) {
            for (int j = 0; j < cols; j++) {
                prod[i][j] = 0;
                for (int k = 0; k < cols; k++)
                    prod[i][j] += a[i][k] * b[k][j];
                System.out.print(prod[i][j] + " ");
            }
            System.out.println();
        }

        sc.close();
    }
}
```

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

        System.out.print("Enter rows and columns: ");
        int rows = sc.nextInt();
        int cols = sc.nextInt();

        int[][] a = new int[rows][cols];
        int[][] b = new int[rows][cols];
        int[][] sum = new int[rows][cols];
        int[][] diff = new int[rows][cols];
        int[][] prod = new int[rows][cols];
```

input

```
Enter first matrix:
4 5
6 7
Enter second matrix:
 7 6
1 2
Addition and Subtraction:
11 11
7 9
Subtraction:
-3 -1
5 5
Multiplication:
33 34
49 50
```