```
/*NAME:HARSH TRIPATHI
ROLL NO:59*/
import java.util.Scanner;

public class Matrix {

	public static void main(String args[]) {
		System.out.println("Enter the number of rows in matrix");
		Scanner sc = new Scanner(System.in);
		int row = sc.nextInt();
		System.out.println("Enter the columns in the matrix");
		int column = sc.nextInt();

		int[][] first = new int[row][column];
		int[][] second = new int[row][column];

		for (int r = 0; r < row; r++) {

			for (int c = 0; c < column; c++) {
				System.out.println(String.format("Enter first
[%d][%d] integer", r, c));
				first[r][c] = sc.nextInt();
			}
		}

		for (int r = 0; r < row; r++) {
			for (int c = 0; c < column; c++) {
				System.out.println(String.format("Enter
second[%d][%d] integer", r, c));
				second[r][c] = sc.nextInt();
			}
		}

		System.out.println("First Matrix:\n");
		print2dArray(first);

		System.out.println("Second Matrix:\n");
		print2dArray(second);

		System.out.println("Main Menu");
		System.out.println("1.Additionof matrix");
		System.out.println("2.Substraction of matrix");
		System.out.println("3.Multiplication of matrix");
		System.out.println("4.Exit");
		System.out.println("Enter your option");
		int option = sc.nextInt();
		sc.close();

		switch (option) {
			case 1:
				sum(first, second);
				break;
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                case 2:
                        substraction(first, second);
                        break;

                case 3:
                        multiplication(first, second);
                        break;

        }

}

private static void sum(int[][] first, int[][] second) {
        int row = first.length;
        int column = first[0].length;

        int[][] sum = new int[row][column];

        for (int r = 0; r < row; r++) {
                for (int c = 0; c < column; c++) {
                        sum[r][c] = first[r][c] + second[r][c];
                }
        }

        System.out.println("Sum of matrix");
        print2dArray(sum);
}

static void substraction(int[][] first, int[][] second) {
        int row = first.length;
        int column = first[0].length;

        int[][] sum = new int[row][column];

        for (int r = 0; r < row; r++) {
                for (int c = 0; c < column; c++) {
                        sum[r][c] = first[r][c] - second[r][c];
                }
        }

        System.out.println("Substraction of matrix");
        print2dArray(sum);
}

static void multiplication(int[][] first, int[][] second) {
        int row = first.length;
        int column = first[0].length;
        int[][] sum = new int[row][column];

        for (int r = 0; r < row; r++) {
                for (int c = 0; c < column; c++) {
                        sum[r][c] = first[r][c] * second[r][c];
                }
        }
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                System.out.println("\nMultiplication of Matrices:\n");
                print2dArray(sum);
        }

        static void print2dArray(int[][] matrix) {
                for (int r = 0; r < matrix.length; r++) {
                        for (int c = 0; c < matrix[0].length; c++) {
                                System.out.print(matrix[r][c] + "\t");
                        }
                        System.out.println();
                }
        }

}
/*
 * java -cp /tmp/4Ij22eQVo7 Matrix
 * Enter the number of rows in matrix
 * 2
 * Enter the columns in the matrix
 * 2
 * Enter first [0][0] integer
 * 1
 * Enter first [0][1] integer2
 * Enter first [1][0] integer
 * 3
 * Enter first [1][1] integer
 * 4
 * Enter second[0][0] integer
 * 5
 * Enter second[0][1] integer
 * 6
 * Enter second[1][0] integer
 * 7
 * Enter second[1][1] integer8
 * First Matrix:
 *
 * 1 2
 * 3 4
 * Second Matrix:
 *
 * 5 6
 * 7 8
 * Main Menu
 * 1.Additionof matrix
 * 2.Substraction of matrix
 * 3.Multiplication of matrix
 * 4.Exit
 * Enter your option
 * 3
 * Multiplication of Matrices:
 *
 * 5 12
 * 21 3
```

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*/
```