4.Write a program in Java to multiply two matrices

```
package OnlinePractice3;

import java.util.Scanner;

public class MatrixMultiplication {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the number of rows1 : ");

        int rows1 = scanner.nextInt();

        System.out.print("Enter the number of columns1 : ");

        int cols1 = scanner.nextInt();

        System.out.print("Enter the number of rows2 :  ");

        int rows2 = scanner.nextInt();

        System.out.print("Enter the number of columns2 : ");

        int cols2 = scanner.nextInt();

        if (cols1 != rows2) {

            System.out.println("Error , col1 not equal to col2");

            return;

        }

        int[][] matrix1 = new int[rows1][cols1];

        System.out.println("Enter the elements of the first matrix:");

        for (int i = 0; i < rows1; i++) {

            for (int j = 0; j < cols1; j++) {

                matrix1[i][j] = scanner.nextInt();

            }

        }

        int[][] matrix2 = new int[rows2][cols2];

        System.out.println("Enter the elements of the second matrix:");
```

```
        for (int i = 0; i < rows2; i++) {
            for (int j = 0; j < cols2; j++) {
                matrix2[i][j] = scanner.nextInt();
            }
        }
        int[][] resultMatrix = new int[rows1][cols2];
        for (int i = 0; i < rows1; i++) {
            for (int j = 0; j < cols2; j++) {
                for (int k = 0; k < cols1; k++) {
                    resultMatrix[i][j] += matrix1[i][k] * matrix2[k][j];
                }
            }
        }
        System.out.println("Result matrix multiplication:");
        for (int i = 0; i < rows1; i++) {
            for (int j = 0; j < cols2; j++) {
                System.out.print(resultMatrix[i][j] + " ");
            }
            System.out.println();
        }
    }
}
```

output-

```
Enter the number of rows1 : 3
Enter the number of columns1 : 3
Enter the number of rows2 :  3
Enter the number of columns2 : 3
Enter the elements of the first matrix:
```

```
1
3
4
5
6
11
23
44
55
Enter the elements of the second matrix:
11
23
43
22
13
45
74
22
34
Result matrix multiplication:
373 150 314
1001 435 859
5291 2311 4839
```