4. Write a program in Java to multiply two matrices

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package com.assin.solution;

public class Matrix {

   public static int[][] multiplyMatrices(int[][] mat1, int[][] mat2) {
      int rows1 = mat1.length;
      int cols1 = mat1[0].length;
      int rows2 = mat2.length;
      int cols2 = mat2[0].length;

      if (cols1 != rows2) {
         throw new IllegalArgumentException("Matrices cannot be multiplied: Incompatible
dimensions.");
      }

      int[][] result = 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++) {
               result[i][j] += mat1[i][k] * mat2[k][j];
            }
         }
      }

      return result;
   }

   public static void main(String[] args) {
      int[][] matrix1 = { {3, -2, 5}, {3, 0, 4} }; // Example matrix 1
      int[][] matrix2 = { {2, 3}, {-9, 0}, {0, 4} }; // Example matrix 2

      int rows1 = matrix1.length;
      int cols1 = matrix1[0].length;
      int rows2 = matrix2.length;
      int cols2 = matrix2[0].length;

      if (cols1 != rows2) {
         System.out.println("Matrices cannot be multiplied: Incompatible dimensions.");
      } else {
         int[][] result = multiplyMatrices(matrix1, matrix2);

         System.out.println("Resultant Matrix after multiplication:");
         for (int[] row : result) {
            for (int val : row) {
               System.out.print(val + " ");
            }
            System.out.println();
```

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        }
      }
    }
  }
```