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**ROLL: 2K19/CO/450**

**JAVA PROGRAMMING**

**LAB ASSIGNMENT 04**

**Group: A, G3**

* Java Program to Multiply to Matrix Using Multi-dimensional Arrays.

**Code:**

public class MatrixMultiplication {

public static void main(String[] args) {

int[][] matrix1 = { { 1, 2, 3 }, { 4, 5, 6 } };

int[][] matrix2 = { { 1, 1 }, { 1, 1 }, { 1, 1 } };

int rows1 = matrix1.length;

int columns1 = matrix1[0].length;

int rows2 = matrix2.length;

int columns2 = matrix2[1].length;

int[][] result = new int[rows1][columns2];

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

for (int j = 0; j < columns2; j++) {

for (int k = 0; k < columns1; k++) {

result[i][j] += matrix1[i][k] \* matrix2[k][j];

}

}

}

for (int i = 0; i < result.length; i++) {

for (int j = 0; j < result[1].length; j++) {

System.out.print(result[i][j] + " ");

}

System.out.println();

}

}

}

**Output:**

Text

Description automatically generated

* **Java Program to Find Transpose of a Matrix**

**Code:**

public class Transpose {

public static void main(String[] args) {

int row = 2, column = 3;

int[][] matrix = { {2, 3, 4}, {5, 6, 4} };

display(matrix);

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

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

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

transpose[j][i] = matrix[i][j];

}

}

display(transpose);

}

public static void display(int[][] matrix) {

System.out.println("The matrix is: ");

for(int[] row : matrix) {

for (int column : row) {

System.out.print(column + " ");

}

System.out.println();

}

}

}

**Output:**

**Text

Description automatically generated**

* **Java Program to Check if An Array Contains a Given Value**

**Code:**

class Main {

public static void main(String[] args) {

int[] num = {1, 2, 3, 4, 5};

int toFind = 3;

boolean found = false;

for (int n : num) {

if (n == toFind) {

found = true;

break;

}

}

if(found)

System.out.println(toFind + " is found.");

else

System.out.println(toFind + " is not found.");

}

}

**Output:**

**Text

Description automatically generated**

* **Java Program to Concatenate Two Arrays**

**Code:**

import java.util.Arrays;

public class Concat {

public static void main(String[] args) {

int[] array1 = {1, 2, 3};

int[] array2 = {4, 5, 6};

int aLen = array1.length;

int bLen = array2.length;

int[] result = new int[aLen + bLen];

System.arraycopy(array1, 0, result, 0, aLen);

System.arraycopy(array2, 0, result, aLen, bLen);

System.out.println(Arrays.toString(result));

}

}

**Output:**

****