

**OBJECT ORIENTED PROGRAMMING LAB**

**Experiment No.: 4**

**Aim**

Read a matrix from the console and check whether it is symmetric or not.

**Procedure**

import java.util.\*;

public class Symetric {

static void checkSymmetric(int mat[][], int row,int col){

int i, j, flag = 1;

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

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

for (j = 0; j < col; j++) {

System.out.print(mat[i][j] + "\t");

}

System.out.println("");

}

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

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

for (j = 0; j < col; j++) {

transpose[j][i] = mat[i][j];

}

}

if (row == col) {

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

for (j = 0; j <col; j++) {

if (mat[i][j] != transpose[i][j]) {

flag = 0;

break;

}

}

if (flag == 0) {

System.out.print("\nThe matrix is not symmetric");

break;

}

}

if (flag == 1) {

System.out.print("\nThe matrix is symmetric");

}

}

else {

System.out.print("\nThe matrix is not symmetric");

}

}

public static void main(String args[]){

Scanner sc = new Scanner(System.in);

int i, j, row, col, flag = 1;

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

row = sc.nextInt();

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

col = sc.nextInt();

int[][] mat = new int[row][col];

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

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

for (j = 0; j<col; j++) {

mat[i][j] = sc.nextInt();

}

}

checkSymmetric(mat, row, col);

}

}

**Output**

