**Name: Keerthana P**

**Roll No:12**

**Batch:S2 RMCA-B**

**Date:06/04/2022**

**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.Scanner;

public class SymmetricMatrix {

public void Display(int [][] arr,int row,int col){

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

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

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

}

System.out.println();

}

}

public static void main(String[] args) {

int [][] mat = new int[3][3];

int [][] trans=new int[3][3];

int row,col;

SymmetricMatrix obj=new SymmetricMatrix();

Scanner s=new Scanner(System.in);

System.out.println("Enter the rows and columns of the matrix");

row=s.nextInt();

col=s.nextInt();

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

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

{

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

{

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

}

}

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

{

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

{

trans[j][i]=mat[i][j];

}

}

System.out.println("Entered matrix");

obj.Display(mat,row,col);

System.out.println("Transpose of the matrix");

obj.Display(trans,row,col);

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

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

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

System.out.println("Matrix is not symmetric");

System.exit(0);

}

}

}

System.out.println("The given matrix is symmetric");

}

}

**Output Screenshot**



