**OBJECT ORIENTED PROGRAMMING LAB**

**Name: Sreelekshmi Anilkumar**

**Roll No: 42**

**Batch: B**

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**Experiment No.: 3**

**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**

