OBJECT ORIENTED PROGRAMMING LAB

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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 Screenshot