

OBJECT ORIENTED PROGRAMMING LAB**Name: Silvia Thomas****Roll No:38****Batch: B****Date:06/04/2022****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++) {

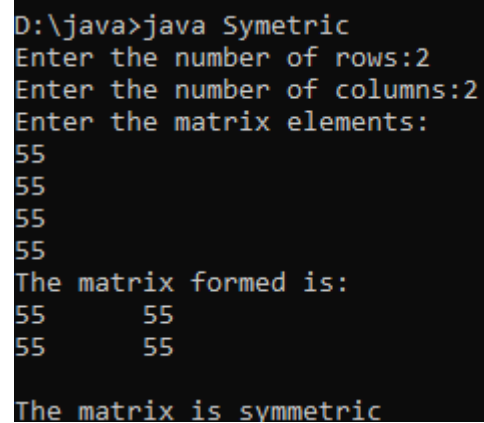
                for (j = 0; j < col; j++) {
```

```
        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 Screenshot



```
D:\java>java Symetric  
Enter the number of rows:2  
Enter the number of columns:2  
Enter the matrix elements:  
55  
55  
55  
55  
The matrix formed is:  
55    55  
55    55  
The matrix is symmetric
```