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**Batch:S2 RMCA**

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**OBJECT ORIENTED PROGRAMMING LAB**

**Experiment No.: 4**

**Aim**

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

**Source code:**

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);

                }

            }

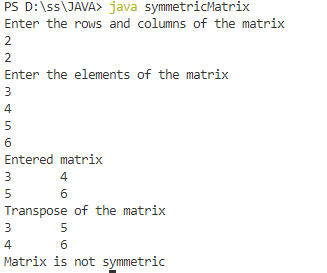
        }

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

    }

}

**Output Screenshot:**

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