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**Batch:B**

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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.

**Program:**

import java.util.\*;

class SymmetricMatrix

{

public static void main(String[] args){

int row, col;

Scanner sc= new Scanner(System.in);

boolean isSymmetic= true;

System.out.print("Enter the number of rows for the Matrices : ");

row= sc.nextInt();

System.out.print("Enter the number of columns for the Matrices : ");

col= sc.nextInt();

int[][] matrix= new int[row][col];

System.out.println("Enter the elements for the Matrix : ");

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

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

matrix[i][j]= sc.nextInt();

}

}

System.out.println("\n");

System.out.println("The entered matrix is : ");

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

{

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

{

System.out.print(matrix[i][j]+" ");

}

System.out.println("\n");

}

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

{

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

{

if(i!=j)

{

if(matrix[i][j]!=matrix[j][i])

{

isSymmetic= false;

break;

}

}

}

if(!isSymmetic)

break;

}

if(isSymmetic){

System.out.println("The entered matrix is Symmetric Matrix");

}

else{

System.out.println("The entered matrix is not a Symmetric Matrix");

}

}

}

**OUTPUT:**