NETWORKING & SYSTEM ADMINISTRATION LAB

Name: Vishnu Vijayakumar

Roll No: 53

Batch: B

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Experiment No: 4

Aim

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

Procedure

```
import java.util.Scanner;

class Main{

    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  : ");
        row= sc.nextInt();
        System.out.print("Enter the number of columns  : ");
        col= sc.nextInt();

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

        System.out.println("Enter the elements : ");
        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 ");
}
else
{
```

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

Output Screenshot

```
D:\Javaprograms>java MainMatrix
Enter the number of rows  : 3
Enter the number of columns  : 3
Enter the elements :
2
3
6
3
4
5
6
5
9


The entered matrix is :
2   3   6

3   4   5

6   5   9

The entered matrix is Symmetric
```