

NETWORKING & SYSTEM ADMINISTRATION LAB**Name:**Abin Sunil**Roll No:**1**Batch:****Date:**06/04/2022**Program No.: 4****Aim**

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

Procedure

```
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;

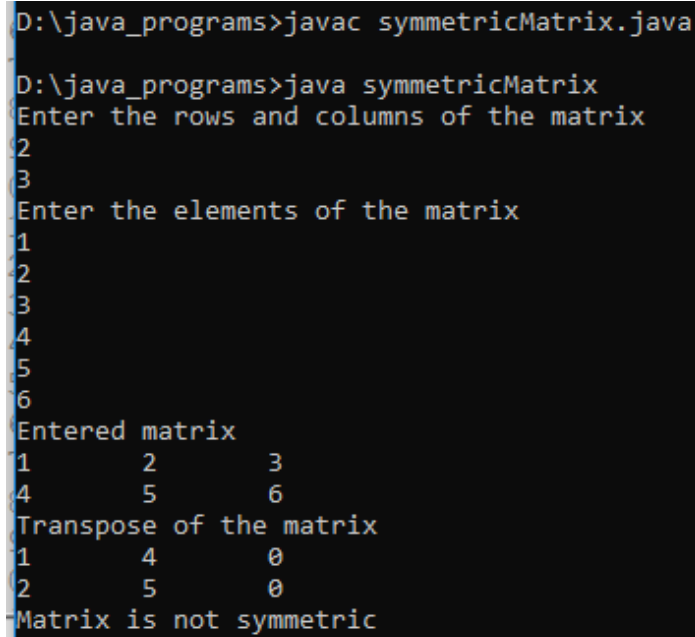
        symmetricMatrix obj=new symmetricMatrix();
        Scanner s=new Scanner(System.in);
        System.out.println("Enter the rows and columns of the matrix");
        row=s.nextInt();
        col=s.nextInt();
        System.out.println("Enter the elements of the matrix");
        for(int i=0;i<row;i++)
        {
            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



The screenshot shows a command prompt window with the following text:

```
D:\java_programs>javac symmetricMatrix.java
D:\java_programs>java symmetricMatrix
Enter the rows and columns of the matrix
2
3
Enter the elements of the matrix
1
2
3
4
5
6
Entered matrix
1      2      3
4      5      6
Transpose of the matrix
1      4      0
2      5      0
Matrix is not symmetric
```

The program prompts the user to enter the rows and columns of the matrix (2 and 3), then the elements of the matrix (1, 2, 3, 4, 5, 6). It then displays the entered matrix and its transpose, and finally outputs "Matrix is not symmetric".