

**OBJECT ORIENTED PROGRAMING LAB****Experiment No.: 3****Name : Swetha Prakash****Roll No : 46****Batch : B****Date : 06-04-22****Aim**

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

**Source Code**

```
import java.util.*;
class SymmetricMatrix{

    public static void main(String[] args){

        int row, col;
        Scanner sc= new Scanner(System.in);
        boolean isSymmetric= 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");
        }
    }
}
```

```

    }

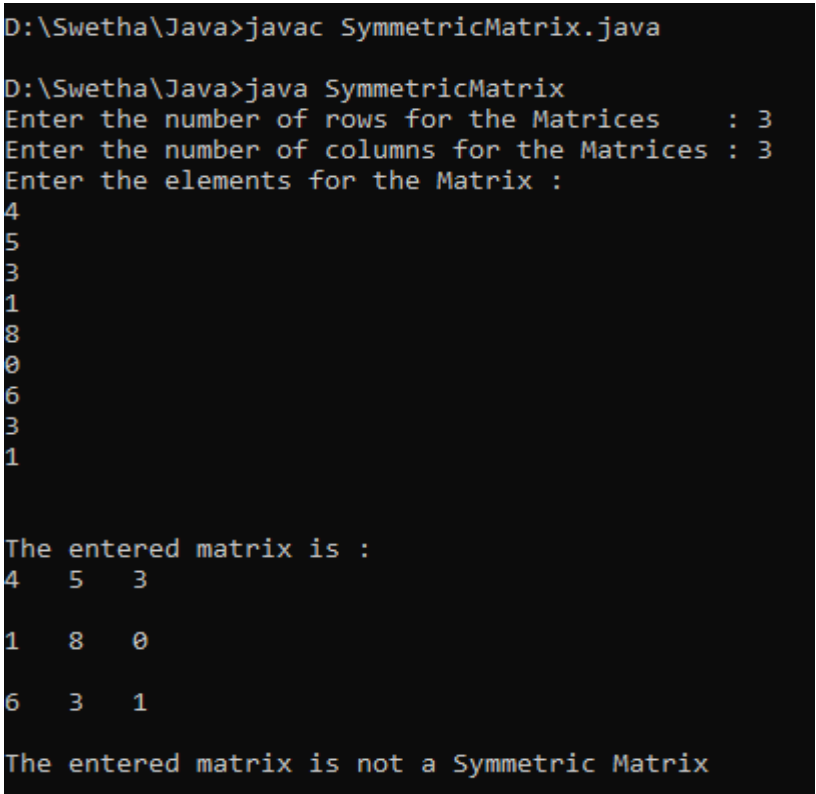
    for(int i=0;i<row;i++){
        for(int j=0;j<col;j++){
            if(i!=j){
                if(matrix[i][j]!=matrix[j][i]){
                    isSymmetric= false;
                    break;
                }
            }
        }

        if(!isSymmetric)
            break;
    }

    if(isSymmetric){
        System.out.println("The entered matrix is Symmetric Matrix");
    }
    else{
        System.out.println("The entered matrix is not a Symmetric
Matrix");
    }
}
}

```

### Output Screenshot



```

D:\Swetha\Java>javac SymmetricMatrix.java

D:\Swetha\Java>java SymmetricMatrix
Enter the number of rows for the Matrices : 3
Enter the number of columns for the Matrices : 3
Enter the elements for the Matrix :
4
5
3
1
8
0
6
3
1

The entered matrix is :
4  5  3

1  8  0

6  3  1

The entered matrix is not a Symmetric Matrix

```