

**NETWORKING & SYSTEM ADMINISTRATION LAB****Name: Vishnu Vijayakumar****Roll No: 53****Batch: B****Date: 18/04/2022****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 isSymmetric= 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])
            {
                isSymmetric= false;
                break;
            }
        }
    }
}

if(!isSymmetric)
    break;
}

if(isSymmetric)
{
    System.out.println("The entered matrix is Symmetric ");
}
else
{

```

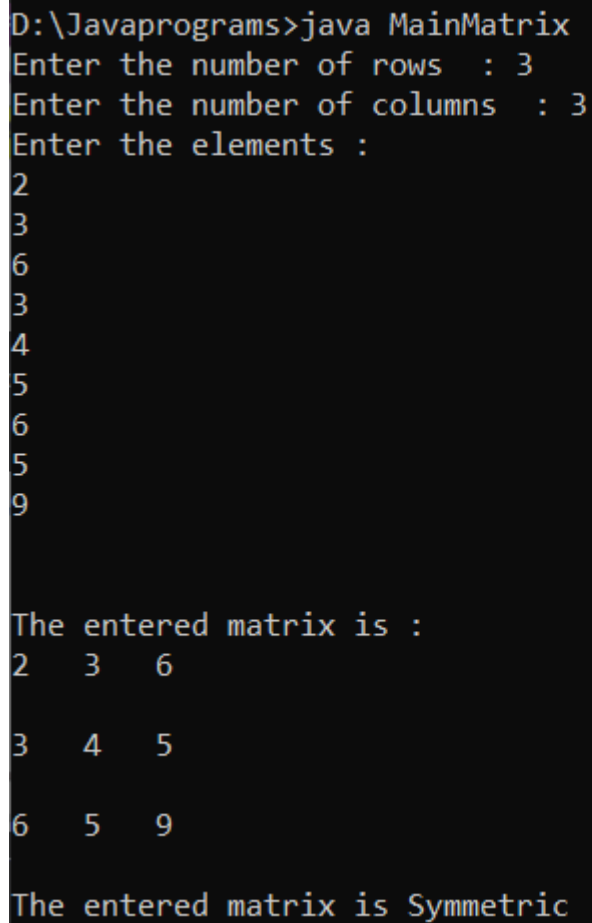
```
System.out.println("The entered matrix is not a Symmetric ");
```

```
}
```

```
}
```

```
}
```

### Output Screenshot



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

```
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
```

The program prompts the user to enter the number of rows (3) and columns (3), then enters the elements of the matrix row by row. The resulting matrix is displayed, and the program concludes that the matrix is symmetric.