OBJECT ORIENTED PROGRAMMING LAB

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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.*;
public class Symetric {
    static void checkSymmetric(int mat[][], int row,int col)
    {
        int i, j, flag = 1;
        System.out.println("The matrix formed is:");
        for (i = 0; i < row; i++) {
            for (j = 0; j < col; j++) {
                System.out.print(mat[i][j] + "\t");
            }
            System.out.println("");
        }
        int[][] transpose = new int[row][col];
        for (i = 0; i < row; i++) {
            for (j = 0; j < col; j++) {
                transpose[j][i] = mat[i][j];
            }
        }
        if (row == col) {
            for (i = 0; i < row; i++) {
                for (j = 0; j < col; j++) {
```

```
                        if (mat[i][j] != transpose[i][j]) {
                            flag = 0;
                            break;
                        }
                    }
                    if (flag == 0) {
                        System.out.print("\nThe matrix is not symmetric");
                        break;
                    }
                }
                if (flag == 1) {
                    System.out.print("\nThe matrix is symmetric");
                }
            }
            else {
                System.out.print("\nThe matrix is not symmetric");
            }
        }
        public static void main(String args[])
        {
            Scanner sc = new Scanner(System.in);
            int i, j, row, col, flag = 1;
            System.out.print("Enter the number of rows:");
            row = sc.nextInt();
            System.out.print("Enter the number of columns:");
            col = sc.nextInt();
            int[][] mat = new int[row][col];
            System.out.println("Enter the matrix elements:");
            for (i = 0; i < row; i++) {
```

```
                    for (j = 0; j < col; j++) {
                        mat[i][j] = sc.nextInt();
                    }
                }
                checkSymmetric(mat, row, col);
        }
}
```

Output Screenshot