

**Don Bosco Institute of Technology, Kurla(W)**  
**Department of Electronics and Tele-Communication Engineering**  
**ECL304 - Skill Lab: C++ and Java Programming**  
**Sem III**  
**2021-22**

<b>Lab Number:</b>	<b>1.2</b>
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<b>Roll No :</b>	<b>15</b>

### **Title:**

To Add Two Numbers, Print Number Entered by User, Swap Two Numbers, Check Whether Number is Even or Odd using Java

### **Learning Objective:**

Students will be able to write java program for simple arithmetic operations and take input from user.

### **Learning Outcome:**

- Ability to execute a simple java with and without any inputs to the program. j
- Understanding the constructs in Java.

### **Course Outcome:**

<b>ECL304.1</b>	Understand object-oriented programming concepts and implement using Java.
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### **Theory:**

#### **1. Difference between procedural and object oriented language:**

**Procedural programming** uses a list of instructions to tell the computer what to do step-by-step. Procedural programming relies on - you guessed it - procedures, also known as routines or subroutines. A procedure contains a series of computational steps to be carried out. Procedural programming is also referred to as imperative programming. Procedural programming languages are also known as top-down languages.

**Object-oriented programming**, or **OOP**, is an approach to problem-solving where all computations are carried out using objects. An **object** is a component of a program that knows how to perform certain actions and how to interact with other elements of the program. Objects are the basic units of object-oriented programming.

#### **2. Application of object orientation:**

- User interface design such as windows, menu.
- Real Time Systems
- Simulation and Modeling

**Faculty: Ms. Deepali Kayande**

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- Object oriented databases
- AI and Expert System
- Neural Networks and parallel programming
- Decision support and office automation systems etc.

### **3. Brief introduction to Java:**

**JAVA** was developed by James Gosling at **Sun Microsystems Inc** in the year **1991**, later acquired by Oracle Corporation. It is a simple programming language. Java makes writing, compiling, and debugging programming easy. It helps to create reusable code and modular programs. [Java](#) is a class-based, object-oriented programming language and is designed to have as few implementation dependencies as possible. A general-purpose programming language made for developers to *write once run anywhere* that is compiled Java code can run on all platforms that support Java. Java applications are compiled to byte code that can run on any Java Virtual Machine. The syntax of Java is similar to c/c++.

#### **Algorithm To Add Two Numbers:**

1. Declare n1,n2
2. define n1 and n2
3. Print n1+n2

#### **Algorithm to Print Number Entered by User:**

1. Declare n1,n2
2. Input n1 and n2
3. Print n1, n2

#### **Algorithm to Print Number Entered by User:**

1. Declare n1,n2
2. Input n1 and n2
3. temp = n1
4. n1=n2
5. n2=temp
6. Print n1 and n2

#### **Algorithm to Check Whether Number is Even or Odd :**

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1. Declare n1, rem
2. Input n1
3. If rem % 2 == 0  
    Print even  
    else  
    Print odd

**Program:**

```
import java.util.Scanner;

public class Lab1 {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in); // Create a Scanner object

        System.out.println("Enter username");

        String userName = sc.nextLine(); // Read user input

        System.out.println("Username is: " + userName); // Output user input

        int n1,n2,temp;

        System.out.println("Enter first number");

        n1=sc.nextInt();

        System.out.println("Enter second number")

        n2=sc.nextInt();

        System.out.println("Number 1 = "+n1+" Number 2 = "+n2);

        System.out.println("\n ADDITION\n");

        System.out.println("\nAddition of both numbers is: " +(n1+n2));

        System.out.println("\n SWAPPING\n");

        temp=n1;

        n1=n2;
```

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```
n2=temp;
```

```
System.out.println("After swapping Number 1 = "+n1+" Number 2 = "+n2);
```

```
System.out.println("\n EVEN/ODD\n");
```

```
if(n1%2==0)
```

```
System.out.println(n1+" is Even");
```

```
else
```

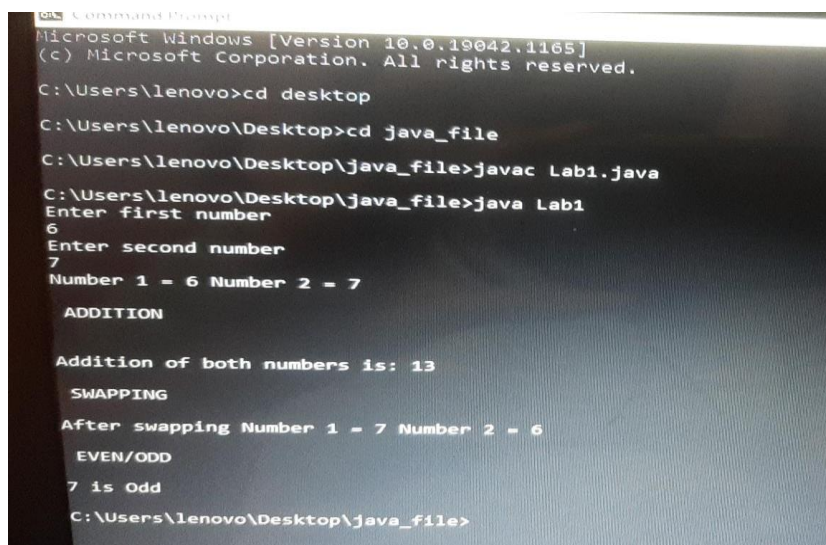
```
System.out.println(n1+" is Odd");
```

```
}
```

```
}
```

**Input given :** n3=5, n4=6, num=8

**Output Screenshot:**



```
Microsoft Windows [Version 10.0.19042.1165]
(c) Microsoft Corporation. All rights reserved.

C:\Users\lenovo>cd desktop
C:\Users\lenovo\Desktop>cd java_file
C:\Users\lenovo\Desktop\java_file>javac Lab1.java
C:\Users\lenovo\Desktop\java_file>java Lab1
Enter first number
6
Enter second number
7
Number 1 = 6 Number 2 = 7

ADDITION

Addition of both numbers is: 13

SWAPPING

After swapping Number 1 = 7 Number 2 = 6

EVEN/ODD

7 is Odd
C:\Users\lenovo\Desktop\java_file>
```

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