Lab Number:	1.2
Student Name:	**Nadhanial Antony**
Roll No :	**16**

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 j ava with and without any inputs to the program. j
- Understanding the constructs in Java.

Course Outcome:

ECL304.1	Understand object-oriented programming concepts and implement using Java.

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

- 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 :
1. Delare n1, rem

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2. Input n1

3. If rem % 2 == 0 Print even else

    Print odd

Program:

```java
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;

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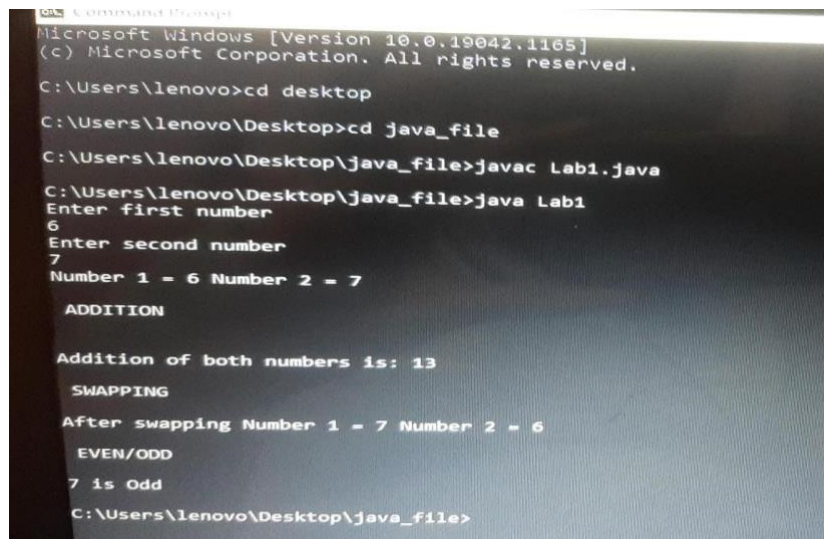
System.out.println(n1+" is Odd");

}

}

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

Screenshot: