Lab Number:	1
Student Name:	**Sakshi Kailash Morey**
Roll No :	**34**

Title:

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

1.1 Implement using C++

1.2 Implement using Java

Learning Objective:

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

Learning Outcome:

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

Course Outcome:

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

Theory:

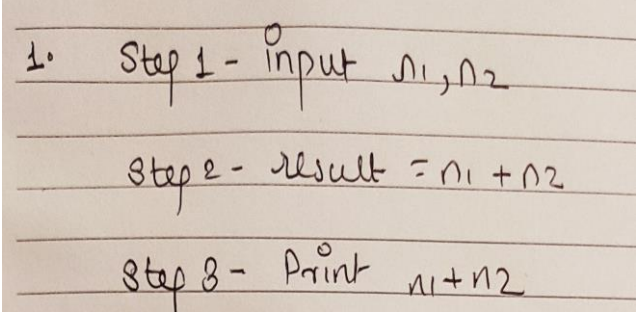**Difference between procedural and object oriented language**

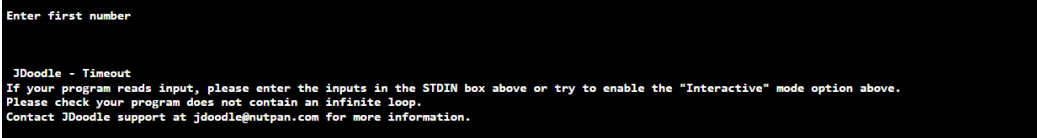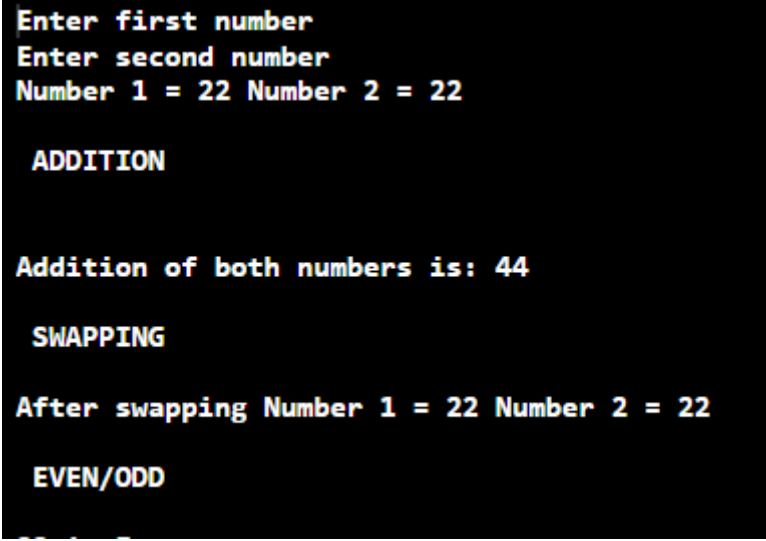**Application of object orientation**

Brief introduction to C++ and Java

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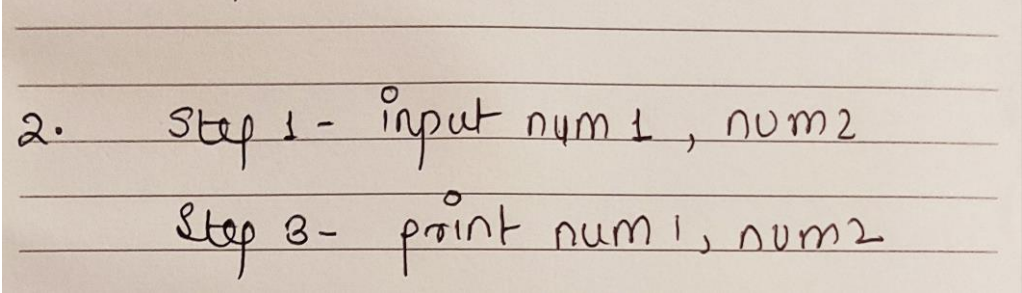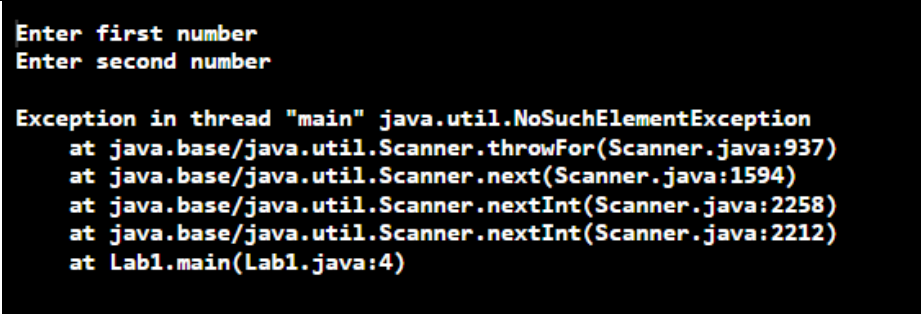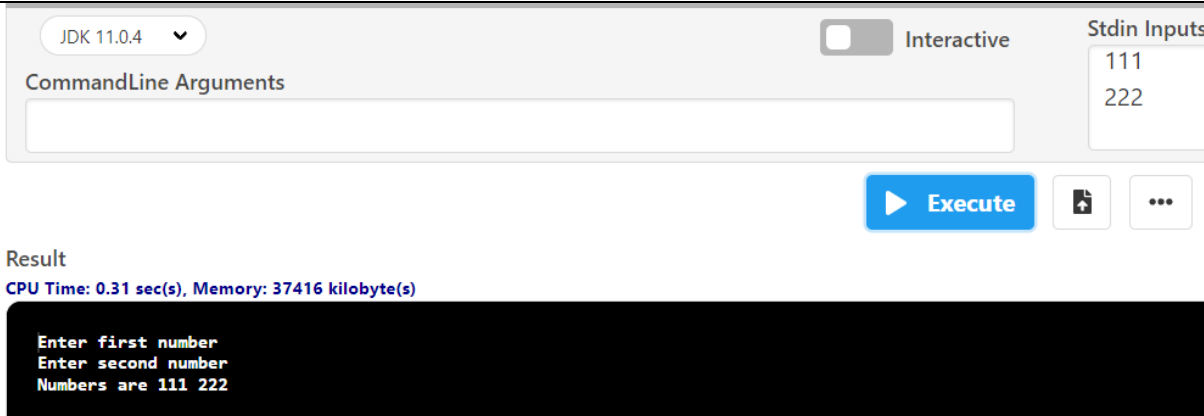
Java Programming

1. **To add two numbers**

Algorithm :	

Program:	```java
	// To add two numbers
	import java.util.Scanner;
	
	public class MyClass {
	    public static void main(String args[]) {
	        int x=10;
	        int y=25;
	        int z=x+y;
	
	        System.out.println("Sum of x+y = " + z);
	    }
	}
	``

Input given:	Enter first number JDoodle - Timeout If your program reads input, please enter the inputs in the STDIN box above or try to enable the "Interactive" mode option above. Please check your program does not contain an infinite loop. Contact JDoodle support at jdoodle@nutpan.com for more information.
Output Screenshot:	Enter first number Enter second number Number 1 = 22 Number 2 = 22 ADDITION Addition of both numbers is: 44 SWAPPING After swapping Number 1 = 22 Number 2 = 22 EVEN/ODD
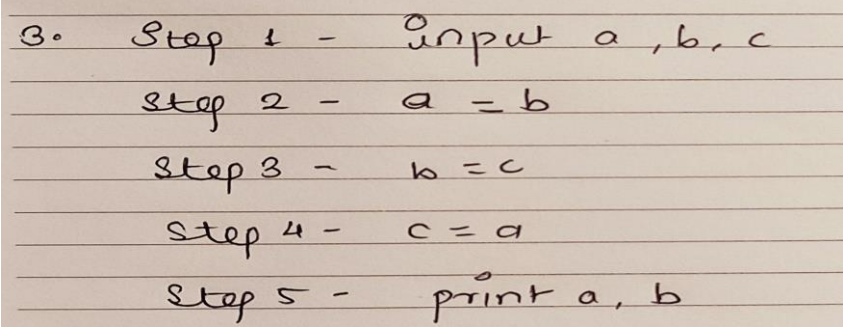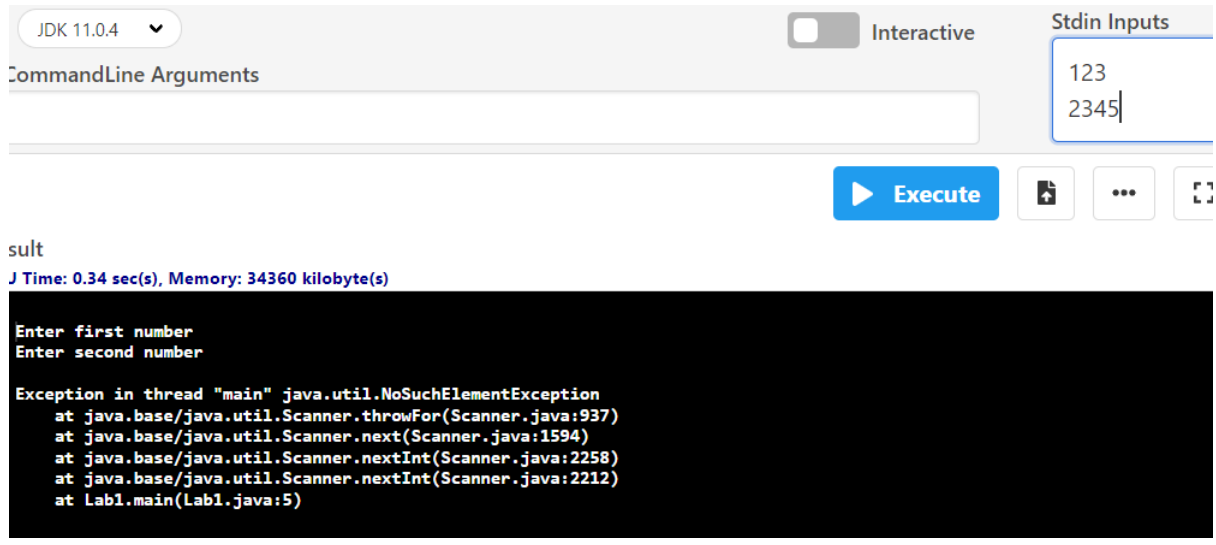
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2. To print numbers entered by the user
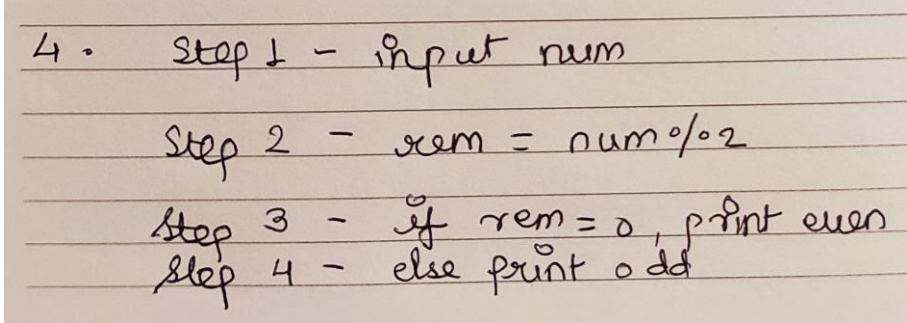
Algorithm:	
	2. Step 1 - input num 1, num2 Step 3 - print num 1, num2
| **Program:** | // **To print numbers entered by the user**<br><br>```java
import java.util.Scanner;
 public class Lab1 {
public static void main(String[] args) { Scanner sc = new Scanner(System.in); int n1,n2,temp;
System.out.println("Enter first number"); n1=sc.nextInt();
System.out.println("Enter second number"); n2=sc.nextInt();
System.out.println("Numbers are "+n1 +" " + n2);
}
}
``` |
| **Input given:** | ```
Enter first number
Enter second number

Exception in thread "main" java.util.NoSuchElementException
    at java.base/java.util.Scanner.throwFor(Scanner.java:937)
    at java.base/java.util.Scanner.next(Scanner.java:1594)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
    at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
    at Lab1.main(Lab1.java:4)
``` |
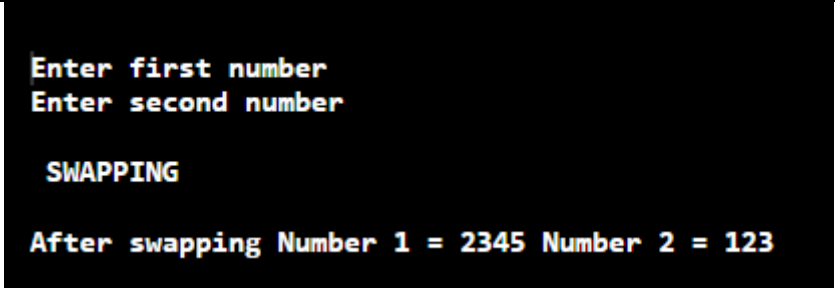| **Output Screenshot:** | JDK 11.0.4    Interactive    Stdin Inputs<br>CommandLine Arguments    111<br>   222<br><br>▶ Execute<br><br>Result<br>CPU Time: 0.31 sec(s), Memory: 37416 kilobyte(s)<br><br>```
Enter first number
Enter second number
Numbers are 111 222
``` |

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3.To swap two numbers

Algorithm:	
	3. Step 1 - input a, b, c Step 2 - a = b Step 3 - b = c Step 4 - c = a Step 5 - print a, b

Program:	```java
	//to swap two numbers
	import java.util.Scanner; public class Lab1 {
	public static void main(String[] args) { Scanner sc = new Scanner(System.in); 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("\n SWAPPING\n"); temp=n1;
	
	n1=n2; n2=temp;
	System.out.println("After swapping Number 1 = "+n1+" Number 2 = "+n2);
	}
	}
	``

Input given:	JDK 11.0.4 Interactive Stdin Inputs
	CommandLine Arguments 123 2345
	▶ Execute
	
	sult
	J Time: 0.34 sec(s), Memory: 34360 kilobyte(s)
	
	Enter first number
	Enter second number
	
	Exception in thread "main" java.util.NoSuchElementException
	    at java.base/java.util.Scanner.throwFor(Scanner.java:937)
	    at java.base/java.util.Scanner.next(Scanner.java:1594)
	    at java.base/java.util.Scanner.nextInt(Scanner.java:2258)
	    at java.base/java.util.Scanner.nextInt(Scanner.java:2212)
	    at Lab1.main(Lab1.java:5)

Output Screenshot:	Enter first number Enter second number SWAPPING After swapping Number 1 = 2345 Number 2 = 123

4. TO CHECK WHETHER NUMBER IS EVEN OR ODD

Algorithm :	

Program:	// TO CHECK WHETHER NUMBER IS EVEN OR ODD
	
	``java
	import java.util.Scanner;
	
	public class EvenOdd {
	
	    public static void main(String[] args) {
	
	        Scanner reader = new Scanner(System.in);
	
	        System.out.print("Enter a number: ");
	        int num = reader.nextInt();
	
	        if(num % 2 == 0)
	            System.out.println(num + " is even");
	        else
	            System.out.println(num + " is odd");
	    }
	}
	``

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Input given:	CPU Time: sec(s), Memory: kilobyte(s) Enter a number: JDoodle - Timeout If your program reads input, please enter the inputs in the STDIN box above or try to enable the "Interactive" mode option above. Please check your program does not contain an infinite loop.
Output Screenshot:	Enter a number: 99 is odd |