

Object Oriented Programming Laboratory (CSL37)

Semester:III

Week #: 01

Section:A,B,C

Primitive Data type and Operators

1. Create a Java program to take two numbers as input and then display their sum
2. Develop a Java program that calculates and prints the area of a circle. The user should input the radius.
3. Write a Java program that prompts the user to enter a number and determines if it's even or odd.
4. Write a Java program that takes a number as input and prints its multiplication table up to 10
5. Write a Java program to perform basic arithmetic operations (addition, subtraction, multiplication, division, and modulus) on two numbers.
6. Create a Java program that declares and initializes variables of different primitive data types (byte, short, int, long, float, double, char, boolean) and prints their values.
7. Write a Java program that compares two integers using equality, inequality, greater than, less than, greater than or equal to, and less than or equal to operators. How would you display the results?
8. How can you use logical operators (AND, OR, NOT) to combine boolean values in a Java program? Create a program that demonstrates the use of these operators.

Solution:

1. AddTwoNumbers.java

```
import java.util.Scanner;
public class AddTwoNumbers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the first number: ");
        int num1 = scanner.nextInt();

        System.out.print("Enter the second number: ");
        int num2 = scanner.nextInt();

        int sum = num1 + num2;

        System.out.println("Sum: " + sum);
    }
}
```

2. CalculateArea.java

```
import java.util.Scanner;
public class CalculateArea {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the radius of a circle: ");
        double radius = scanner.nextDouble();

        double area = Math.PI * Math.pow(radius, 2);

        System.out.println("Area of the circle: " + area);
    }
}
```

3. CheckEvenOdd.java

```
import java.util.Scanner;
public class CheckEvenOdd {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a number: ");
        int number = scanner.nextInt();

        if (number % 2 == 0) {
```



```
        System.out.println(number + " is even.");
    } else {
        System.out.println(number + " is odd.");
    }
}
}
```

4. **PrintMultiplicationTable.java**

```
import java.util.Scanner;
public class PrintMultiplicationTable {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a number to print its multiplication table: ");
        int number = scanner.nextInt();

        for (int i = 1; i <= 10; i++) {
            System.out.println(number + " * " + i + " = " + (number * i));
        }
    }
}
```

5. **ArithmeticOperations.java**

```
public class ArithmeticOperations {
    public static void main(String[] args) {
        int num1 = 10;
        int num2 = 5;

        // Addition
        int sum = num1 + num2;
        System.out.println("Sum: " + sum);

        // Subtraction
        int difference = num1 - num2;
        System.out.println("Difference: " + difference);

        // Multiplication
        int product = num1 * num2;
        System.out.println("Product: " + product);

        // Division
        int quotient = num1 / num2;
        System.out.println("Quotient: " + quotient);

        // Modulus
        int remainder = num1 % num2;
        System.out.println("Remainder: " + remainder);
    }
}
```



6. PrimitiveDataTypes.java

```
public class PrimitiveDataTypes {  
    public static void main(String[] args) {  
        // Integer types  
        byte byteVar = 127;  
        short shortVar = 32767;  
        int intVar = 2147483647;  
        long longVar = 9223372036854775807L;  
  
        // Floating-point types  
        float floatVar = 3.14f;  
        double doubleVar = 3.14159265359;  
  
        // Character type  
        char charVar = 'A';  
  
        // Boolean type  
        boolean boolVar = true;  
  
        System.out.println("Byte: " + byteVar);  
        System.out.println("Short: " + shortVar);  
        System.out.println("Int: " + intVar);  
        System.out.println("Long: " + longVar);  
        System.out.println("Float: " + floatVar);  
        System.out.println("Double: " + doubleVar);  
        System.out.println("Char: " + charVar);  
        System.out.println("Boolean: " + boolVar);  
    }  
}
```

7. ComparisonOperators.java

```
public class ComparisonOperators {  
    public static void main(String[] args) {  
        int num1 = 10;  
        int num2 = 5;  
  
        // Equality  
        System.out.println("Equal: " + (num1 == num2));  
  
        // Inequality  
        System.out.println("Not Equal: " + (num1 != num2));  
  
        // Greater than  
        System.out.println("Greater than: " + (num1 > num2));  
  
        // Less than  
        System.out.println("Less than: " + (num1 < num2));  
  
        // Greater than or equal to  
        System.out.println("Greater than or equal to: " + (num1 >= num2));  
    }  
}
```



```
// Less than or equal to
System.out.println("Less than or equal to: " + (num1 <= num2));
}
```

8. **LogicalOperators.java**

```
public class LogicalOperators {
    public static void main(String[] args) {
        boolean bool1 = true;
        boolean bool2 = false;

        // Logical AND
        System.out.println("Logical AND: " + (bool1 && bool2));

        // Logical OR
        System.out.println("Logical OR: " + (bool1 || bool2));

        // Logical NOT
        System.out.println("Logical NOT (bool1): " + !bool1);
        System.out.println("Logical NOT (bool2): " + !bool2);
    }
}
```