

# Java Assignment1

Sunday, March 9, 2025 9:18 PM

**Create a program that declares and initializes all primitive data types in Java and prints their default and assigned values.**

```
class PrimitiveDemo {  
    // public static void main(String[] args) {  
    //     byte byteValue = 10;  
    //     int intValue = 35;  
    //     char charValue = 'N';  
    //     short shortValue = 20;  
    //     long longValue = 30L;  
    //     double doubleValue = 90.0;  
    //     float floatValue = 66.99f;  
    //     boolean booleanValue = true;  
  
    //     System.out.print("Default Value : " + byteValue);  
    //     System.out.println("intValue : " + intValue);  
    //     System.out.println("charValue : " + charValue);  
    //     System.out.println("shortValue : " + shortValue);  
    //     System.out.println("longValue : " + longValue);  
    //     System.out.println("doubleValue : " + doubleValue);  
    //     System.out.println("floatValue : " + floatValue);  
    //     System.out.println("booleanValue : " + booleanValue);  
  
    // }  
}
```

```
// }  
// }
```

---

**Write a program to convert an int value to double automatically and display both values.**

```
class Widening{  
    public static void main(String args[]){  
        int num = 12;  
        double d = num;  
        System.out.println(num);  
        System.out.println(d);  
    }  
}
```

---

**Write a program to convert a double value to int using typecasting and explain the data loss.**

```

class Narrowing{
    public static void main(String args[]){
        double d = 55.03;
        int num = (int) d;

        System.out.println(d);
        System.out.println(num);
    }
}

```

---

**Write a program to calculate the average of three int numbers using typecasting to display the result in double.**

```

public class AvgNum{
    public static void main(String args[]){
        int num1 = 22;
        int num2 = 44;
        int num3 = 33;

        int sum = num1 + num2 + num3;
        double average = (double) sum / 3;

        System.out.println("Average: " + average);
    }
}

```

---

**Write a program to demonstrate binary, octal, hexadecimal, and floating-point literals in Java.**

```

public class LiteralsDemo {
    public static void main(String[] args) {
        // Binary literal
        int binaryLiteral = 0b1010;
        System.out.println("Binary Literal: " + binaryLiteral);

        // Octal literal
        int octalLiteral = 012;
        System.out.println("Octal Literal: " + octalLiteral);

        // Hexadecimal literal
        int hexLiteral = 0xA;
        System.out.println("Hexadecimal Literal: " + hexLiteral);

        // Floating-point literal
        double floatLiteral = 3.14159;
        System.out.println("Floating-point Literal: " + floatLiteral);
    }
}

```

```

    }
}

```

-----Write  
**a program to display character and string literals along with their ASCII values.**

```

public class CharString {
    public static void main(String[] args) {
        // Character literals
        char[] charLiterals = {'A', 'B', 'C', 'a', 'b', 'c', '1', '2', '3', '@', '#', '$'};

        System.out.println("Character Literals and their ASCII Values:");
        for (char ch : charLiterals) {
            System.out.println("'" + ch + "' : " + (int) ch);
        }

        // String literals
        String[] stringLiterals = {"Hello", "Java", "123", "@#$"};

        System.out.println("\nString Literals and their ASCII Values:");
        for (String str : stringLiterals) {
            System.out.print("'" + str + "'" + " : ");
            for (char ch : str.toCharArray()) {
                System.out.print((int) ch + " ");
            }
            System.out.println();
        }
    }
}

```

-----  
**Write a program that uses boolean literals to control program flow in an if-else statement.**

```

public class BooleanLiteral {
    public static void main(String[] args) {
        boolean isRaining = true; // Boolean literal used in if-else condition

        if (isRaining) {
            System.out.println("Take an umbrella! It's raining.");
        }
    }
}

```

```

    } else {
        System.out.println("Enjoy the sunshine! No rain today.");
    }
}
}

```

---

**Write a program to perform addition, subtraction, multiplication, division, and modulus operations on two integer numbers and display the results.**

```

import java.util.Scanner;
public class MathCalAll{
    public static void main(String args[]){
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the first number:");
        double num1 = sc.nextDouble();
        System.out.println("Enter the second number:");
        double num2 = sc.nextDouble();

        double sum = num1 + num2;
        double sub = num1 - num2;
        double mul = num1 * num2;
        double div = num1 / num2;
        double mod = num1 % num2;

        System.out.println("The sum of two numbers: " + sum);
        System.out.println("The sub of two numbers: " + sub);
        System.out.println("The mul of two numbers: " + mul);
        System.out.println("The div of two numbers: " + div);
        System.out.println("The mod of two numbers: " + mod);

    }
}

```

---

**Write a program to compare two integers using all relational operators (==, !=, >, <, >=, <=) and display the results.**

```

import java.util.*;
public class Main {
    public static void main(String[] args) {
        int var1 =10, var2 = 5;

        System.out.println("Var1 = " + var1);
        System.out.println("Var2 = " + var2);

        System.out.println("var1 == var2: "+(var1 == var2));
    }
}

```

```

        System.out.println("var1 != var2: "+(var1 != var2));
        System.out.println("var1 > var2: "+(var1 > var2));
        System.out.println("var1 < var2: "+(var1 < var2));
        System.out.println("var1 >= var2: "+(var1 >= var2));
        System.out.println("var1 <= var2: "+(var1 <= var2));
    }
}

```

----- Write  
**a program to check if a number is positive and even using logical operators (&&, ||, !).**

```

/*public class logical{
    public static void main(String []args){
        boolean a = true, b = false;

        System.out.println("AND (&&):" + (a&&b));
        System.out.println("OR (||):" + (a | b));
        System.out.println("NOT (!a): " + (!a));

    }
}*/

```

-----  
**Write a program to demonstrate the use of assignment operators (=, +=, -=, \*=, /=, %=) on two integers.**

```

public class AssignmentOperator{
    public static void main(String args[]){
        int num1 = 22;
        int num2 = 10;

        num1 = num2;
        System.out.println("num1 = " + num1);

        num1 += num2;
        System.out.println("num1 += num2 = " + num1);

        num1 -= num2;
        System.out.println("num1 -= num2 = " + num1);

        num1 *= num2;
        System.out.println("num1 *= num2 = " + num1);

        num1 /= num2;
        System.out.println("num1 /= num2 = " + num1);

        num1 %= num2;
        System.out.println("num1 %= num2 = " + num1);
    }
}

```