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BSIT 2-4 OOP

Activity #2 – Operators

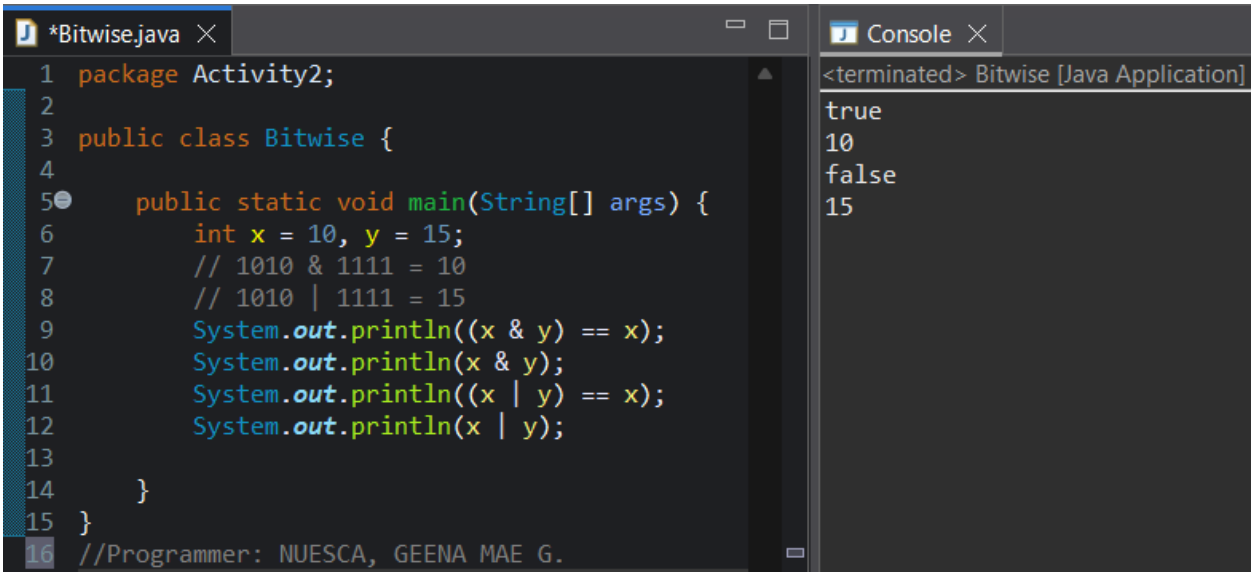
General Instructions:

1. Create a Java program based on the questions.
2. Follow the exact required output shown in the question.
3. You must use the specific operator required in each number.
4. Do NOT hardcode the final answers (e.g., System.out.println(86); without computation is not allowed).
5. Show proper use of variables and correct operator usage.
6. Follow proper Java syntax, indentation, and naming conventions.
7. Use System.out.println() for displaying output.
8. Screenshot the code and the output.
9. Compile and run your program to verify correctness before submission.
10. Submission Format: Section_LastName_FirstName_OperatorsActivity#2.pdf

Please answer the following questions:

PART I:

1. Create a Java program using bitwise operators that will produce the output: true, 10, false, 15.



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2. Create a Java program using the ternary operator that will produce the output: true, false, 25, 30.

Ternary.java

```java
package Activity2;

public class Ternary {

    public static void main(String[] args) {
        int x = 25, y = 30;

        System.out.println((x < y) ? true : false);
        System.out.println((x > y) ? true : false);
        System.out.println((x < y) ? x : y);
        System.out.println((x > y) ? x : y);
        // e1 ? e2(true) : e3(false)
    }
}
//Programmer: NUESCA, GEENA MAE G.
```

Console

```
<terminated> Ternary [Java Application]
true
false
25
30
```

3. Create a Java program using assignment operators that will produce the output: Addition: 120, Subtraction: 70, Multiplication: 144, Division: 16.

*Assignment.java

```java
package Activity2;

public class Assignment {

    public static void main(String[] args) {
        int num1 = 100, num2 = 100, num3 = 12, num4 = 64;

        num1 += 20;   // num1 = 100 + 20
        System.out.println("Addition        : " + num1);

        num2 -= 30;   // num2 = 100 - 30
        System.out.println("Subtraction : " + num2);

        num3 *= 12;   // num3 = 12 * 12
        System.out.println("Multiplication  : " + num3);

        num4 /= 4;    // num4 = 64 / 64
        System.out.println("Division        : " + num4);
    }
}
//Programmer: NUESCA, GEENA MAE G.
```

Console

```
<terminated> Assignment [Java Application]
Addition        : 120
Subtraction     : 70
Multiplication  : 144
Division        : 16
```

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PART II:

Program Requirements:

1. Use at least five (5) different operators from the following categories:
   - Arithmetic operators (+, -, *, /, %)
   - Relational operators (>, <, >=, <=, ==, !=)
   - Logical operators (&&, ||, !)
   - Unary operators (++, --)
   - Assignment operators (+=, -=, *=, /=)
   - Bitwise operators (&, |, ^, <<, >>)
2. The program must produce exactly six (6) outputs only.
3. At least one output must include a tricky increment or decrement case, such as:
   - a++ + ++a
   - --b + b++
   - or any similar expression that modifies the variable within the same statement.
4. Do NOT reuse:
   - Any variable values
   - Any variable names
   - Any logic patterns from Part I.
5. The output must contain:
   - At least two (2) boolean results
   - At least four (4) numeric results

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*Part2.java

```java
package Activity2;

public class Part2 {

    public static void main(String[] args) {

        //Arithmetic
        int a = 6, b = 7;
        System.out.println(a * 10 + b);

        //Bitwise
        int c = 4, d = 3;
        System.out.println(c ^ d);

        //Assignment
        int e = 202;
        e += 202;
        System.out.println(e);

        //Increment
        int f = 110;
        System.out.println(f++ + ++f);

        //Boolean - Relational & Logical
        int g = 7, h = 12;
        System.out.println((g < h) && (g > 4));

        int i = 20, j = 25;
        System.out.println(!(i <= j));
    }
}
//Programmer: NUESCA, GEENA MAE G.
```

Console

<terminated> Part2 [Java Application]

```
67
7
404
222
true
false
```