

# AP Computer Science - Boolean Operators Questions

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Question 1: Simple AND

```
public static void bool1(int x, int y) {  
    if (x > 5 && y < 10) {  
        System.out.println("A");  
    } else {  
        System.out.println("B");  
    }  
}
```

What is printed when bool1(7, 8) is called? \_\_\_\_\_

What is printed when bool1(3, 8) is called? \_\_\_\_\_

## Question 2: Simple OR

```
public static void bool2(int n) {  
    if (n < 0 || n > 100) {  
        System.out.println("Out of range");  
    } else {  
        System.out.println("Valid");  
    }  
}
```

What is printed when bool2(50) is called? \_\_\_\_\_

What is printed when bool2(-5) is called? \_\_\_\_\_

## Question 3: NOT Operator

```
public static void bool3(boolean flag, int x) {  
    if (!flag && x > 10) {  
        System.out.println("Yes");  
    } else {  
        System.out.println("No");  
    }  
}
```

What is printed when bool3(false, 15) is called? \_\_\_\_\_

What is printed when bool3(true, 15) is called? \_\_\_\_\_

\_\_\_\_\_

#### Question 4: Complex AND/OR

```
public static void bool4(int a, int b, int c) {  
    if ((a > b && b > c) || (a < b && b < c)) {  
        System.out.println("Ordered");  
    } else {  
        System.out.println("Not ordered");  
    }  
}
```

What is printed when bool4(5, 3, 1) is called? \_\_\_\_\_

What is printed when bool4(2, 8, 6) is called? \_\_\_\_\_

\_\_\_\_\_

#### Question 5: Multiple Conditions

```
public static void bool5(int x, int y) {  
    int result = 0;  
    if (x > 0 && y > 0 && x + y > 10) {  
        result = 1;  
    } else if (x < 0 || y < 0) {  
        result = -1;  
    } else {  
        result = 0;  
    }  
    System.out.println(result);  
}
```

What is printed when bool5(6, 7) is called? \_\_\_\_\_

What is printed when bool5(3, 4) is called? \_\_\_\_\_

What is printed when bool5(-2, 5) is called? \_\_\_\_\_

\_\_\_\_\_

#### Question 6: Short-Circuit Evaluation

```
public static void bool6(int x, int y) {  
    if (x != 0 && y / x > 2) {  
        System.out.println("True");  
    } else {
```

```

        System.out.println("False");
    }
}

```

What is printed when bool6(3, 7) is called? \_\_\_\_\_

What is printed when bool6(0, 10) is called? \_\_\_\_\_

### Question 7: Complex Nested Logic

```

public static void bool7(int a, int b, int c) {
    boolean result = false;
    if ((a > 10 || b > 10) && !(a > 10 && b > 10)) {
        if (c % 2 == 0) {
            result = true;
        }
    }
    System.out.println(result);
}

```

What is printed when bool7(15, 5, 4) is called? \_\_\_\_\_

What is printed when bool7(15, 12, 4) is called? \_\_\_\_\_

What is printed when bool7(5, 8, 3) is called? \_\_\_\_\_

### Question 8: Multiple Boolean Expressions

```

public static void bool8(int n) {
    if ((n > 0 && n < 10) || (n > 20 && n < 30) || (n > 40 && n < 50)) {
        System.out.println("In range");
    } else if (n == 10 || n == 20 || n == 30 || n == 40 || n == 50) {
        System.out.println("Boundary");
    } else {
        System.out.println("Out of range");
    }
}

```

What is printed when bool8(25) is called? \_\_\_\_\_

What is printed when bool8(30) is called? \_\_\_\_\_

What is printed when bool8(35) is called? \_\_\_\_\_

### Question 9: Complex Boolean with Counter

```
public static void bool9(int x, int y, int z) {  
    int count = 0;  
    if (x > 5 && y > 5 || z > 5) {  
        count++;  
    }  
    if (!(x <= 5 || y <= 5) && z > 0) {  
        count++;  
    }  
    if (x + y > 10 && x + z > 10 && y + z > 10) {  
        count++;  
    }  
    System.out.println(count);  
}
```

What is printed when bool9(6, 7, 2) is called? \_\_\_\_\_

What is printed when bool9(3, 4, 8) is called? \_\_\_\_\_

### Question 10: Extreme Boolean Logic

```
public static void bool10(boolean p, boolean q, boolean r) {  
    if ((p && !q) || (!p && q)) { // XOR logic  
        if (r) {  
            System.out.println("A");  
        } else {  
            System.out.println("B");  
        }  
    } else if ((p || q) && r) {  
        System.out.println("C");  
    } else {  
        System.out.println("D");  
    }  
}
```

What is printed when bool10(true, false, true) is called?  
\_\_\_\_\_

What is printed when bool10(true, true, true) is called?  
\_\_\_\_\_

What is printed when bool10(false, false, false) is called?  
\_\_\_\_\_