Java Operators

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1 Questions and Exercises

1.1 Consider the following code snippet.

1.1.1 What are the values of i and n after the code is executed

The field 'i' is 11 and 'n' is 0.

1.1.2 What are the final values of i and n if instead of using the postfix increment operator (i++), you use the prefix version (++i))?

The field 'i' is 11 and 'n' is 1.

1.2 To invert the value of a boolean, which operator would you use?

```
Boolean inverted = !foo;
```

1.3 Which operator is used to compare two values, = or == ?

The '==' operator is.

1.4 Explain the following code sample.

```
result = someCondition ? value1 : value2;

// Can be rewritten as
if (someCondition) {
    result = value1;
} else {
    result = value2;
}
```

1.5 Operators may be used in building _____, which compute values.

In building expressions.

1.6 Expressions are the core components of _____.

They are the core components of statements.

1.7 Statements may be grouped into _____.

They may be grouped into blocks.

1.8 Statements are roughly equivalent to sentences in natural languages, but instead of ending with a period, a statement ends with a _____.

It ends with a semicolon.

1.9 A block is a group of zero or more statements between balanced _____ and can be used anywhere a single statement is allowed.

Statements between balanced braces.

1.10 In the following program, explain why the value "6" is printed twice in a row.

The value of '++i' increases immediately, while the value of 'i++' only increases in the next statement.

1.11 Write a program that accepts a price on the command line and prints out the appropriate tax and total purchase price.

```
public class SalesTax {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter price");

        Double tax = 1.0825;
        Double price = sc.nextDouble();
        Double priceAfterTax = price * tax;
        System.out.println("Tax is: " + (priceAfterTax - price));
        System.out.println("Total cost is: " + priceAfterTax);
    }
}
```

1.12 Write a program that takes a number of inches from the command line and converts it to centimeters.

```
public class InchesToCm {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter inches");

        Double cmInInch = 2.54;
        Double inches = sc.nextDouble();
        System.out.println(inches + " inches is " + (inches * cmInInch) + "cm");
    }
}
```