Operators and Expressions

**1) What are all possible values of a Boolean expression?**

-The only possible values for the Boolean expression are True and False.

**2) List eight Boolean operators.**

-Eight Boolean operators are as follows:

== means equal to.

!= means not equal to.

< means less than

<= means less than or equal to

> means greater than

>= means greater than or equal to

&& is a logical and operator

|| is a logical or operator

**3) What is the difference in how short circuiting works for && and ||?**

-Sometimes it is not necessary to evaluate both operands of a logical expression. If the left half of a logical && is false, then the entire argument must be false and there is no need to continue evaluating the statement. Similarly, if the left half of a logical || is true then the entire statement is true and there is no need to evaluate the rest of the statement. Short circuiting is a more efficient way of evaluating logical conditions. To avoid unnecessary work, you should create your code to evaluate simplistic logical evaluations on the left side of the operation and more complex evaluations on the right side.

**4) Look at the list of operators. What operator has the highest precedence? Which has the lowest?**

-According to the list of operators, the following all have the highest precedence: the “()” (precedence override), “++” (post-increment), and “--" (post-decrement). The precedence for all three of these operators is equal. The operator with the lowest precedence is the “=” (assignment) operator.

**5) In an if or else construction using multiple lines of code, what effect does the use of curly braces have?**

-In an if/else statement containing multiple lines of code, the curly braces serve as a way to group logical statements together inside a block and separate blocks from each other.

**6) in a switch statement, what happens if you omit break?**

-When writing a switch statement, if you omit the break command the computer will not exit the switch statement once the desired logical condition is met and will continue to evaluate logical conditions.