**Boolean Operators**

These operators, which return true or false, were mentioned in the Operators Part 1 lecture, but let's go over a few more examples.  To start, each of the examples will use the following variables:

boolean courseInSession = true;

int lectureCount = 150;

! is the "logical complement" operator.  It allows us to test for a false value:

if( !courseInSession ) {

System.out.println("Course is not in session.");

}

 ... or it can flip a true value to false, and a false value to true:

courseInSession = !courseInSession;

!= is the "not equal to" operator:

if( lectureCount != 150 ) {

System.out.println("The lecture count is something other than 150");

}

The == operator checks for equality:

if( lectureCount == 150 ) {

System.out.println("The lecture count is 150");

}

And the rest check to see if a value is less than (<), less than or equal to (<=), greater than (>), greater than or equal to (>=):

if( lectureCount < 10 ) {

System.out.println("Lecture count is less than 10");

} else if( lectureCount >= 20 && lectureCount <= 30 ) {

System.out.println("Lecture count is between 20 and 30 [inclusive]");

} else if( lectureCount > 100 ) {

System.out.println("Lecture count is 101 or greater.");

}

**Arithmetic Operators**

+ is add (or concatenation when used with a String), - is subtract, \* is multiply, and / is divide. The use of those operators should be obvious. The one arithmetic operator that deserves further discussion is the modulo or remainder operator: %.  This operator returns the remainder of a division operation.  For example:

10 % 2 == 0 (10 / 2 == 5 with a remainder of 0)

10 % 4 == 2 (10 / 4 == 2 with a remainder of 2)

etc.

Assignment Operators

= is an assignment operator.  It can be used on its own (int x = 30;) or it can be used with arithmetic operations as well:

x = x + 5;

is the same thing as:

x += 5;

Other examples:

x -= 5; // Same as x = x - 5;

x \*= 5; // Same as x = x \* 5;

X /= 5; // Same as x = x / 5;

x %= 5; // Same as x = x % 5;