***Week 2***

Constants - A values that is fixed, explicitly stated, does not change:

 tax = 12 \* .06;

 but the tax changes throughout our code

 final float SALESTAX = 0.0725;

 tax = 12 \* SALESTAX;

Variables - Name for a memory location:

 Data\_Type Variable\_Name { = value} ;

 byte -128 to 127

 short -32,768 to 32,767

 int -2,147,483,648 to 2,147,483,647

 long Huge

 float -3.402823e38 to 3.402823e38

 double -1.79769313486232e308 to 1.79769313486232e308

 char Symbols used in text (8 bits)

 boolean true or false

**Operator Precedence Chart**



You may use this chart during quizzes and exams.

**// Demonstrate the % operator**

class Modulus {

 public static void main(String args[ ]) {

 int x = 42;

 System.out.println(“x mod 10 “ + x%10);

 }

}

Output:

x mod 10 = 2

**The ++ and -- operators**

class IncDec { **// Example 1**

 public static void main(String args[ ]) {

 int a = 1;

 int b = 2;

 int c;

 int d;

 c = ++b;

 d = a++;

 c++;

 System.out.println(“a=” + a);

 System.out.println(“b=” + b);

 System.out.println(“c=” + c);

 System.out.println(“d=” + d);

 }

}

What is the output generated by this program?

**// Example 2**

int a=4, b=9, c, d, e;

c = ++a;

d = b++;

e = ++b;

What is the effect?

**// Example 3**

int num = 10;

How does (num++ = = num) evaluate? \_\_\_\_\_\_\_\_\_\_\_

 (num = = num++) evaluate? \_\_\_\_\_\_\_\_\_\_\_

 (++num = = num) evaluate? \_\_\_\_\_\_\_\_\_\_\_

 (num = = ++num) evaluate? \_\_\_\_\_\_\_\_\_\_\_

**Conditional Expression**

Here’s a simple if statement (Note: I’ll discuss if statements in detail next week) that will assign the largest value contained in the variables a & b, into the variable max.

if (a>b)

 max = a;

else

 max = b;

The conditional expression equivalent to this statement is:

max = (a>b) ? a : b;

or

(a>b) ? max = a : max = b;

Blocks and Scope Rules

* Global Variables
* Local Variables
* Name Precedence

