Review (Chapters 1 and 2)   Name:_____   Date: _____

1.) How many bits are in a byte? __8__

2.) Am I Hardware or software? Check the appropriate box

	Hardware	Software
Eclipse		x
Mac OS X		x
Monitor	x	
Microsoft Word		x
RAM	x	
Hard drive	x	

3.) _____CPU_____ is known as "the brain" of the computer.

4.) The two values of a bit are _0__   and __1_ .

5.) Write the line of code that would print out the line:
        COMP110 is my favorite class

        Systme.out.println("COMP110 is my favorite class");

6.) Declare a variable of type float with the identifier, myFloat, and initialize the value to 4.6.

        float myFloat = 4.6;

7.) Write the code to read in an integer from keyboard input. (two lines of code)

```
Scanner keyboard = new Scanner(System.in);
int myInt = keyboard.nextInt();
```

8.) In the code that follows, underline all <u>Classes</u>, circle all objects, draw boxes around all methods, and draw a line through all ~~arguments~~.

```
public class MyProgram
    {
        public static void main(String[] args)
        {
            String myString = "This is a string";
            int len = myString.length();
            System.out.print("the length is " + len);
            String shortString = myString.substring(10);
        }
    }
```

9.) What data value is stored in myDouble? (remember that 1 and 2 are integers)
```
double myDouble = ( 1 / 2 ) * 5.0;
```

```
0
(1 / 2) is integer division and equals zero
```

10.) What data value is stored in myDouble now?
```
double myDouble = ( 1.0 / 2.0 ) * 5.0;
```

```
2.5
```

11.) Write down three legal variable names for Java.

```
name1    name_two    nameThree
```

12.) Write down three illegal variable names for Java.

```
1name    name.two    name-three
```

13.) Write down the declaration for two variables called `miles` and `time`. Declare `miles` as type int and initialize it to zero. Declare `time` as type double and initialize it to 40.5.

      int miles = 0;
      double time = 40.5;

14.) What is the output produced by the following lines of program code?

```
char a, b;
a = 'b';
System.out.println(a);
b = 'c';
System.out.println(b);
a = b;
System.out.println(a);
```

      b

      c

      c

15.) Suppose that `mary` is an object of class `Person`, and suppose that `increaseAge` is a method of class `Person` that uses one argument, an integer. Write the invocation of the method `increaseAge` for the object `mary` using the argument 5.

      mary.increaseAge(5);

16.)   5 % 2 = 1

       12 % 4 = 0

       82 % 60 = 22

       24 % 14 = 10

17.) What is the value of myInt *after* each line of code is executed?

```
__0___    int myInt = 0;
__1___    myInt++;
__6___    myInt = myInt + 5;
__3___    myInt -= 3;
__3___    System.out.println("the value is: ", myInt);
```

18.) What kind of error would you get from the following line of code?

```
byte b1 = 5
syntax error
```

19.) The factorial (denoted ! in mathematics) of a number is the product of that number and all positive integers less than it. Examples:
$3! = 3 * 2 * 1 = 6$
$5! = 5 * 4 * 3 * 2 * 1 = 120$

Write pseudocode that prompts the user for an integer and then outputs the factorial of that number.

Prompt user for integer
Declare total variable of type int
While integer is strictly greater than zero
    total = integer * (integer – 1)
    subtract one from integer
print out total