Intro Concepts: Recap

On Tuesday, we discussed a variety of topics relating to variables. The highlights of the lecture were:

- A variable is a named piece of memory that stores a value. This value can change, and most times will.
- All variables have a **datatype** associated with them. This datatype tells the computer what kinds of values the variable can store.
- We discussed five datatypes:
  - Strings (for example your name, always contained in quotations – “Computer Science”)
  - int (for example, your age) – which are whole numbers
  - double (for example a salary or batting average) – which are decimal numbers
  - char (for example a single character: ‘c’, always contained in apostrophes)
  - boolean – a true or false variable
- We also discussed how to print out something to the screen:
  - System.out.println(“Hello!”);
  - This prints a string (line) to the System output device (i.e. the monitor).
  - Notice the statement ends in a ;
    - This is Java’s equivalent to a period
- Ultimately, we want to be able to print out variables. After all, you see this every day in your life: video games (scores, k/d, name, etc.), your GPA on Scholar’s Choice, the salary printed on your paycheck, which is calculated by the computer, etc.
- To use variables, we must first declare them:
  - The general form is
    - datatype name;
  - For example:
    - int age;
    - double salary;
    - char initial;
    - String name;
    - boolean passedQuiz;
- Variables need a value. We **assign** them a value
  - After you have declared a variable you cannot declare other variables with the same name.
    - Above we declared String name;
- The variable **name** cannot be used again or you will get an error.
- To assign name a value, you would type:
  - `name = “Chris”;
- To assign age a value, you would type
  - `Age = 37; // or whatever the age is`
- // remember, the double slash is a comment… you should use them!

Putting it all together, you could have something like this (keep in mind, your class name is the same as the filename):

```java
public class SetVariables {
    public static void main (String [] args) {
        String name;
        int age;
        name = “chris”;
        age = 37;
        System.out.println(“My name is “ + name);
        System.out.println(“I am “ + age + “ years old”);
    }
}
```

This would print:

```
My name is chris
I am 37 years old
```