Announcements: Lecture text available at website in pdf; Discussion session texts also be available. Due dates at course website.

Read text Ch 4 for Thursday. Midterm 7-815 PM 10/14. Thompson 102, 106

Online survey – PLEASE do it (worth one OWL point.)

Second programming assignment due Friday. Hand in through OWL;
Office hours in LGRT 223 (a computer lab). Here are the hours:
M 1-4; TU 3:45-5; W 4-6; TH 2-5; F 12:15-3:15

Website: [http://twiki-edlab.cs.umass.edu/bin/view/Moll121/WebHome](http://twiki-edlab.cs.umass.edu/bin/view/Moll121/WebHome)

Lecture Synopsis–Talked mainly about the coordination between class definitions, and constructor and method invocations in driver class; Scanner in some detail; arithmetic in Java; introduction to conditional statements; how to create a class, given a driver class as a specification.

Issues to review: how data is tagged; import statements; class attributes; flow of control at the statement level; flow of control at the class level; How do attributes get their values?

Here is a Tub Tester driver class [note: gallon of water weighs 8.6 lbs]

```java
public class TubTester{
    public static void main(String[] args){
        BathTub b = new BathTub("King",60); // 60 gal capacity
        BathTub t = new BathTub("Queen",70);
        System.out.println("capacity of both tubs: " +
            (b.getCapacity() + t.getCapacity()));
        System.out.println("filled wt of larger tub: " + t.totalWt());
    }
}
```

1. What outside class does it make use of?
2. What are that class’s attributes? Methods? Any mutator methods?
3. Can you write the constructor?
4. Can you write the getCapacity() method?
5. Change driver so that it uses a Scanner object to read BathTub characteristics, then make a tub.

Here is the Car class – the questions at the end resemble what you need to do for programming assignment 2.

```java
public class Car{
    String make;  // manufacturer
    double fuelCapacity;
    double fuelAmount;

    public Car(String what, double cap, double amt){
        make = what;
        fuelCapacity = cap;
        fuelAmount = amt;
    }

    public String getMake(){return make;}
    public double getCapacity(){return fuelCapacity;}
    public double getFuel(){ return fuelAmount;}
    public void setFuel(double amt){fuelAmount = amt;}
```
```java
public double unusedCap(){ // noteworthy: does a calculation
    return (fuelCapacity - fuelAmount);
}
```

Now write a driver class that performs these actions

6. Make a car called myCar, a “Ford”, fuel capacity = 15.0, tank is half-filled.
7. Make a second car, called herCar, an Audi, cap = 16.0, amt = 12.0.
8. Write a statement that prints the unused capacity of the Audi.
9. Write a statement that prints the sum of the capacities of the cars.
10. Steal exactly the right amount of gas from the Ford to fill the Audi.
11. Write a statement that copies into var fordGas the gas now in myCar.