Computer Science 121 - Fall 2012 - Discussion #2

Announcements:
Due dates at course website, CourseSyllabus link. Read text Ch 4, do embedded problems for Wednesday. Third programming assignment due next Mon, 10/1. It's based on Chapter 4 materials? so don?t delay doing the Ch 4 work.
Course website:
http://twiki-edlab.cs.umass.edu/bin/view/CS121Fall2012

Lecture Synopsis-- Talked last week about classes and objects, method application, building a driver given a class or classes; given a driver, building a class; Scanner, packages, and import statements; casting between char and int.

Scanner review:  next() vs nextLine()

Suppose you've created a Scanner object called sca, and suppose you've made this input

She sent the kid home

(1) What's the difference between these two statements, when the line above is input:

String s = sca.next();  vs  String s = sca.nextLine();

Suppose you've created a Scanner object called sca2, and suppose you've made this input

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(2) What's the difference in the way these two statements work, when the line above is input via the keyboard:

String s = sca2.next();  vs  int k = sca2.nextInt();

(3) Write a one class program (thus: main), which reads in three strings from the keyboard (no white space in each of the three), and then prints them out on a single line, in reverse order. Thus if your program read, in succession, these inputs:

Tom
Dick
Harry

Your program should print

HarryDickTom
public class Infant{
    private String name; private int age;
    public Infant(String who, int months){
        name = who;
        age = months;
    }
    public String getName(){return name;}
    public int getAge(){return age;}
    public void anotherMonth(){age = age + 1;}
    public void setName(String n){name = n;} // added to std book version
}

Write a one-class interactive program that uses this version of the Infant class and that:
a) reads in name and age values from the keyboard, then makes an Infant object, nicksKid;
b) reads in name and age values from the keyboard, then makes another Infant object, pennysKid;
c) Exchanges the name values between nicksKid and pennysKid.

The OilDriver class is below. It is supported by the OilTank class, which models a home heating oil tank, as indicated.

public class OilDriver{
    public static void main(String[] args){
        // owner,capacity,price per gallon, how much in tank
        OilTank myTank = new OilTank("Hank",300,3.59,200);
        System.out.println(myTank.getCapacity());
        System.out.println(myTank.getPrice());
        myTank.setPrice(3.64);
        System.out.println(myTank.getAmtInTank());
    }
}

(5) Write a version of the OilTank class that would make OilDriver work properly. (How is a class definition organized?) Describe the files that must be involved, and where they must go.

(6) Now that you've created the OilTank class, write one more statement in OilDriver that prints to the console the cost of filling myTank.