Assignment 6_1:
Due 9:00 AM Wednesday 26 Nov 2008
Submit: file zip of your source code.

Objectives: In this assignment, you familiarize yourself with designing and implementing classes.

Note: You can discuss the assignment with your friends or your tutor but you have to complete by yourself. Copying other’s work is not permitted and you will get F grade.

1. (25 points). Write a class Student that has the following fields and methods:
   Fields: fullName in the format <LastName MiddleName FirstName> (of type String), yearOfBirth (of type int).
   Methods:
   • a constructor that accepts arguments for each field
   • mutator and accessor methods
   • String toString()
   • String getFirstName()

For example, if the full name is “Le Hong Ha” and the birth year is 1988, then:
   toString() will return “Le Hong Ha, 1988”
   getAge() will return 20
   getFirstName() will return “Ha”

hint: age = current year - yearOfBirth.

You can get current year using code below:
   Calendar calendar = Calendar.getInstance();
   int year = calendar.get(Calendar.YEAR);
   Remember to import java.util.Calendar;

To extract the first name from full name, can use functions of String class as follows:
   - lastIndexOf(“ “) to find the last index of empty String between middle name and first name
subString()

Or you can use class StringTokenizer.

2. (25 points). **Card class**

   Follow this link for more detail about Card

   A card has a suit (heart, diamond, spade, or club) and a value (ace, two, three,..., jack, queen, or king).

   Write a class Card that has the following fields and methods:

   **Fields:** suit, value (of type String).

   **Methods:**

   - a constructor that accepts arguments for each field
   - mutator and accessor methods
   - String toString()
   - String getColor()

   For example, if the suit is “Diamond” and the value is “Jack”, then:

   ```
   toString() will return “Diamond Jack”
   getColor() will return “Red”
   ```

   Hint: getColor() will return color which depends on the value of suit field. If suit is spade/club, return “Black”, if suit is heart/diamond, return “Red”

3. (25 points). **Book class**

   Write a class Book that has the following fields and methods:

   **Fields:** title, author (of type String), year, numberOfPages (of type int)

   **Methods:**

   - a constructor that accepts arguments for each field
   - mutator and accessor methods
   - String toString()
   - boolean isThick()

   The isThick() method should return true if the book has more than 1000 pages, otherwise it returns false.
For example, if the title is “Java How to Program”, the author is “Deitel”, the year is 2004, and the number of pages is 1200, then:

```
toString() will return “Java How to Program, Deitel, 2004, 1200 pages”
isThick() will return true.
```

4. (25 points). **MyProgram class**
This class contains the main() method that creates one object of each class mentioned above. Demonstrate available methods for each object in the main() method.

**Hint:** you have to demo how to use the classes that you developed in exercise 1, 2, 3 by writing a main function in another class.

**Example:** to show how to use method `setFullName` of class `Student`:
```
Student student = new Student();
Student.setFullName("any name here");
```