Assignment 2
THE RENTAL CAR COMPANY
Due Tuesday, March 8, 2009
at the beginning of class

We are going to make user interface forms for an on-line store that allows customers to reserve a rental car. The form will have three parts. The first part will ask the user to type in their name and pick a type of car. The second part will allow the user to select additional options for the car rental. And the third part will be a check-out form to show the final rental price.

On the first part of the form, the user will be asked to type their name, the number of days to rent the car, and be given 3 types of cars to select from. They can also type in a coupon code, if they have one, and will be shown the basic rental fee for the car they have selected. For example, part of the form might look something like:

<div align="center">

Welcome to
The Rental Car Company

Name: |_____|
Number of days: |_____|
Select a Car:
     o Economy   o Mid-size   o Luxury
Enter Coupon Code if you have one: |_____|

</div>

(You may choose a different title for your company, or other types of cars.)

The user should be able to select only one of the radiobuttons for the type of car to rent. In addition to these inputs (from TextFields and RadioButtons), you should have a button for the user to click to show the basic rental fee for the car, and a label or textfield to display the fee in, where the

> Basic rental fee is computed as follows:
> - the economy cars are $30 per day, the mid-size size cars are $40 per day, and the luxury cars are $50 per day.
> - there is a weekly discount: if the number of days is 7 or more, each day of the mid-size car rental is reduced to $37.50 per day, the luxury rental is reduced to $45 dollars per day, and the economy rental remains at $30 per day.
> - The allowable coupon code is LUX15OFF. If the user types in this string, then they will get $15 off the (total) rental of the Luxury rental

Also, the user is required to put in their name and number of days and an alert should be given if those two textfields are left blank.

The second part of the form is for options. On this form, use checkboxes for the user to select additional options:

GPS system ($20.00 for the entire rental period)
Extra Insurance ($10.00 per day)
Child Safety Seat ($5.00 per day)

In the option part of the form, there should be a button where the user can click to see the cost of the options, with a label or textfield that will display how much the options will add to the rental cost.

The third part of the form is the checkout. This part should have radiobuttons to allow the user to select whether they want to buy a full tank of gas for their rental car (and bring it back empty) or not (in which case they will bring the car back with a full tank). Then you should display the following information:

Basic Rental Fee (from the first part of the form)
Options (from the second part of the form)
Gas (cost of the full tank of gas)
Subtotal (the sum of the basic rental fee, the options and the gas)
Sales Tax
Total Rental (the subtotal plus the sales tax)

The gas is computed as $3.50 per gallon where the economy car holds 10 gallons, the mid-size car holds 12 gallons and the luxury car holds 15 gallons.

The sales tax is computed on the subtotal by taking 8.25% of the subtotal.

Finally there should be another button where the user can clear the form and the variables and start over.

Computation for the form:

This application will require class level variables to keep information. In these variables, you should keep all the information that is needed in more than one button. In particular, note that you must save the all the information that must be displayed on the checkout form, or used in the checkout form to compute the cost of gas.

There is also a programming requirement for this assignment. This is that you are **required to write and use a method** to compute the all or part of the rental fee in the first part of the form. The design of the method is up to you.

Other requirements:
In the checkout, all monetary amounts should be formatted as currency.

To finish this assignment
- Design the layout of the form and make it. Give meaningful names to the components.
- Write the programs
  - o Write comments on the top of each program, including **your name** and what the program is for
  - o Write (simple) comments before each button actionPerformed method with the description of what it does
  - o Write the code, including the method; design variables as appropriate; and add any additional comments that will make the code clear to read

For this assignment, you will be graded on:

  Whether the programs runs and computes correctly
  Checking for missing input from the first two textboxes
  Use of radiobuttons or checkboxes
  Format, clarity and appearance of user interface
  Currency Formatting
  Design of variables and variable names
  Design and use of a method
  Design and use of class level variables
  Documentation
  Clarity and overall design of programs

This assignment will be worth 140 points.

How to Submit your Homework:

In your project directory, create a **zip file** of the sub-directory that has your homework project in it and submit it to the assignment 2 in the blackboard system.

Bonus Part

Since the form is quite large, it would be helpful if part of the form were in another window frame. For the bonus question, you can put the rental car options part (the second part) of the form in a separate window.

In the main form for the second part, put just a button that the user can click to go select more options. When the user clicks this button, a second form will appear that has the checkbuttons for the three options, GPS, extra insurance, and child safety seat. There should be two buttons here, one to display the cost of the options selected by the user and another one to go back to the main form.

All the values needed by both forms should be kept in public class level variables in the second form. In the main form, before launching the second form, you can put the

number of days into a variable on the second form. Then after the second form returns, you can get the cost of the options from a variable on the second form. Use the example on the class web page to see how to create the second form and to access its variables.

The bonus part is worth an extra 20 points.