

Assignment 1
MOBILE PHONE PAYMENT
Due Thursday, February 10, 2011

In this assignment, you will design a GUI and code in Java to implement an application to calculate a monthly payment for a mobile phone. Suppose that you have a basic plan with a monthly cost of \$39.99. (The plan includes \$35.99 for minutes and \$4.00 for messages).

Your phone bill will contain the following three items:

1. Minutes: incoming or outgoing minutes. The plan covers 400 minutes. If you used more than that, you need to pay \$0.15/minute for extra minutes.
2. Instant messages: The plan covers 100 messages for each month. If you used more than 100 messages, you need to pay \$0.10/message for the extra messages.
3. Internet usage: KBs (kilobytes) used for upload and download from internet. For each KB, you pay \$0.02.

This plan also offers a special: If you used more than 900 minutes and more than 350 messages, you will get a 10% discount on your bill. After taking any possible discount, the total bill will include New York State sales tax at 8%.

Write a program that performs the following operations:

- Allow the user to type in how many of minutes, messages, and KBs that he or she used for this month. (Use a `(jTextField)` for each item.)
- If the user used more than 400 minutes or more than 100 messages, add in the extra charges based on the basic plan to get a subtotal for the bill.
- If the user used more than 900 minutes and more than 350 messages, take 10% off the bill to get the total with discount.
- When the user is done, display a bill showing the bill results: it should include the subtotal of the bill of all three items, the discount (if the order qualified for it), the total with discount, the tax and the final total.
- Allow the user to clear the items and totals in order to start over.

When you develop the program, follow these steps:

- Design the user interface:
 - Design the layout of the form
 - Decide what each button will do
- Write the program
 - Decide on the names and types of variables and where to declare them
 - Write comments on the top of the program, including **your name** and what the program is for
 - Write comments before each button `ActionPerformed` function with the description of what it does
 - Write other comments on statements as necessary
 - Test your program to make sure that it works correctly

Grading

All programs should have comments that contain the name of the programmer and that explain the role of each button function. Additional comments must be added as necessary to explain the actions of the program.

The following additional items will be included in the grading. The program must

- Run!
- Correctly compute the subtotal, discount, total with discount, tax and the final total of the bill and display them
- The form must have a Clear button to allow the user to start over
- The form must present a good appearance and have clear instructions for the user.

How to Submit your Homework:

In your project directory, create a **zip file** of the sub-directory that has your homework project in it. For example, if you name your project “Mobile”, there will be a folder named “Mobile” under your projects folder – zip the Mobile folder. Go to the iLMS page and submit the zipped file for assignment 1.