Programming Assignment #4

Calculate a Cell Phone Bill

CS 1428.004, Fall 2011
Instructor: Jill Seaman

Due: in class Friday, 10/14/2011 (upload electronic copy by 9:30am)

Problem:

You and your friends subscribe to various plans from the same cell phone service provider and you want to be able to calculate how much your bill will cost for the month. Write a C++ program that will calculate the amount of your cell phone bill given which plan you subscribe to and how many minutes you used during the month.

The cell phone service provider offers the following plans:

Package A: 450 minutes for $39.99. .45/minute for each additional minute.
Package B: 900 minutes for $59.99. .40/minute for each additional minute.
Package C: Unlimited minutes for $69.99.

Input:

Use the following menu to prompt the user for their cell phone plan:

```
Rate Plans:
A. The 450 minute plan
B. The 900 minute plan
C. The unlimited plan
Enter which rate plan the customer subscribes to:
```

Then ask the user to input the number of minutes used in the month.

For both inputs, use a while loop for input validation. The user should select only A, B, or C from the menu, and the minutes should be between 0 and 44640 (inclusive).

Processing: Compute the amount of the monthly bill according to the plan descriptions above.

Output: Display the amount of the monthly bill with a dollar sign and formatted to 2 decimal places. Also, display how much money Package A customers would have saved if they had purchased package B or C, and how much money Package B customers would have saved if they had purchased package C. If there would be no savings, no

message should be printed.

After these messages have been displayed, ask the user if they would like to calculate another bill. If they say yes, then present the menu again and repeat the process. Continue until they say no, they do not want to calculate another bill.

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Rate Plans:
A. The 450 minute plan
B. The 900 minute plan
C. The unlimited plan
Enter which rate plan the customer subscribes to: B
Enter the total number of minutes used during the month: 875

The amount due for the month is $59.99

Calculate another bill? (Y/N) Y

Rate Plans:
A. The 450 minute plan
B. The 900 minute plan
C. The unlimited plan
Enter which rate plan the customer subscribes to: D
Please enter A, B, or C: A
Enter the total number of minutes used during the month: 550

The amount due for the month is $84.99
Amount saved if you were on Plan B: $25.00
Amount saved if you were on Plan C: $15.00

Calculate another bill? (Y/N) N
```

Style:

See the Style Guidelines document on the course website. The grader will deduct points if your program violates the style guidelines.

Logistics:

Your program must be free of compiler errors.

Include the file documentation header at the top of your source file (it is now described in the Style Guidelines document).

Do you not use any features of C++ that we have not yet covered in class (use features from Chapters 1-5 only).

Name your file **assign4_xxxxxxxxx.cpp** where xxxxxxxxx is your 9 character TX state ID number, the one that is on your ID card. It should look something like this: A04123456. If yours is just six digits, then add "A00" to the front.

There are **two** steps to the turn-in process:

1. Submit an **electronic copy** using the following upload link:

   http://www.cs.txstate.edu/~js236/homework
   (There is a link directly to this page on the course website).

   Click on CS1428.004, and log in with your Net ID and follow the directions to upload your file.

2. Submit a **printout** of the file at the beginning of class on the day it is due. Please print your name on the front page, and staple if there is more than one page.