

CS306 – Introduction to Perl

Fall 2005

Homework Assignment #3

Due: FRIDAY, October 14th, 2005

The homework should be submitted in the form of a zip file which contains one program for each question. Your zip file should be named *firstname-lastname-hw3.zip* and should contain files like *hw3q1*, *hw3q2*, *hw3q3*, etc... Email this zip file to cs306@cis.uab.edu.

1. Extend the gas station tab tracking program from the previous program. Add the following three enhancements.

a. DATA FILE (7 pts). Store the gas tab data in a text file so that the data persists between runs of the program. Call this text file *gastabs.txt*. You can use whatever format you'd like for the file. Note that you do not need to update this file after every transaction – you may keep an in-memory representation of the data until the user requests to end the program, at which time you may write it out to the file. Similarly, you may read the data file once, at program startup. Use a file test to check for the existence of the file. If it does not exist, provide an informational notice to the user that you are starting a new tab file.

b. MENU (6 pts). Create a menu-based interface to make the program more user-friendly. An example menu would be:

```
Add a transaction to a user's tab:    A
Apply a payment to a tab:            P
List all tabs:                       L
Quit:                                Q
```

Please make a choice from the above menu:

and have the program present appropriate prompts based on their menu selection (such as “Which user is making this transaction?”). Note that if you did not implement “apply a payment to a tab” in the last assignment, you should do so now.

c. FUNCTIONS (7 pts). Demonstrate the usage of functions by organizing your code into functions. Provide separate functions for the following operations: reading the data file, printing the menu and querying the user for further information based on menu selection, adding a transaction to a tab, receiving a payment from a tab, and writing the data file. You may also provide additional functions if you would like to do so.

BONUS (5 pts) For menu selections that involve a specific customer (adding a transaction, applying a payment), present the user with a second menu that has a numbered list of the customers (1. Fran for example), so that the user can enter the number instead of typing the customer's name. This requires mapping numbers to customers and then mapping customers to their record (Hint: One hash's value becomes the other's key).