COSC 1410, Spring 2016

Assignment 4: Switch and Function

[1] **Objective**: This assignment is designed to test your understanding of the syntax in Chapter 2 including loops and switch statements, enumeration type and functions (Chapter 3). You will write some simple functions using value parameters (only). This assignment shows how to divide a complex problem into smaller sub-problems. It also shows that while solving a particular sub-problem, you can focus on only that part of the problem.

[2] **Description:** This assignment demonstrates a program that calculates a customer's bill for a local cable company. There are two types of customers: residential and business. There are two rates for calculating a cable bill: one for residential customers (R) and one for business customers (B). For residential customers, the following rates apply:

- Basic residential cable service fee: $29.99
- Additional channel fee: $10.00 each
- Tax and Fees: 15%

For business customers, the following rates apply:

- Basic business cable service fee: $49.99
- Additional channel fee: $20.00 each
- Tax and Fees: 15%

The program should ask the user for an account number (the first character is either R or B followed by a five digit number), and number of additional channels. Note: We should have read the data from a database or a file. Unfortunately, we are not there yet. Later, we will show you how to read data from a file. At that time, you may want to come back to this assignment and redo it the better way.

[3] **Input**: The customer's account number, account type, number of additional channels.

[4] **Output:** The program should output the customer's account number, type of account, number of additional channels, and the billing amount.

[5] **Requirements**: These special requirements are to make sure that you try all the syntax discussed in class. I am not suggesting that this is the best way to solve this problem.

- Use a Switch statement to process the customer account types (B, b, R, r).
- All fixed costs should be declared as Global Constants.
- Write a simple function to compute the cable bill. Use this one for both business and residential customers. You will have to pass some values to the function (using value parameters).

[6] Deadline: Wednesday, March 2, 2016.

[7] Sample Output: Two executions.

This program computes a cable bill.
Enter account number: R11111
Enter the number of additional channels: 0
Account number = R11111
Amount due = $34.49

This program computes a cable bill.
Enter account number: B12345
Enter the number of additional channels: 4
Account number = B12345
Amount due = $149.49