Skills Coding 2019

Business Program Challenge: Bucks Bank

Objective

You have been hired by Bucks Bank, who is wishing to implement a computer program to automate their transactions process.

Create a program using your preferred language, to provide the owner with the following information and complete the following tasks. You must also provide a flowchart or pseudocode to demonstrate your planning.

Criteria

In your program you are expected to include the following menu:
1. Choose Account
2. Deposit
3. Withdraw
4. Pay Bill
    a. Add Payee
    b. Pay Bill
    c. Automatic Bill Payment
5. Current Balance
6. Monthly Transaction List
7. Change Service Plan
8. Advance one month (for testing purposes). This would normally be done by the current time and day, but to test your program we need to be able to advance the date.

Interest Rate

Account Balance	Interest Rate
$0 to $4,999.99	0.00%
$5,000 to $9,999.99	0.10%
$10,000 to $24,999.99	0.20%
$25,000 to $59,999.99	0.30%
$60,000 to $5,000,000.00	0.40%
$5,000,000.01 and over	0.50%

Service Plans

Plan Name	Fee	Transaction Limit	Overdraft Protection
All-Inclusive	$25.00 / month	unlimited	$500 limit. $1.00 for each transaction below $0 balance.
Unlimited	$12.50 / month	25 free transactions. $0.50 / transaction after 25.	$250 limit. $2.00 for each transaction below $0 balance.
Everyday	$0 / month	$1.00 / transaction	$0

Functionality

When the program starts you must read the initial data from the file account.txt which will be provided on your flash drive. Your program must then provide the user with the following options.

Choose Account

- Input Account number
- This will set the current Active Account

Deposit

- Value of deposit to the Active Account.
- Rounded to two decimal places.

Withdraw

- Value of withdraw from the Active Account.
- Value must be within the account's current balance and overdraft limit.

Pay Bill

There are three sub-menu items under Pay Bill

- Add Payee
  - Company name, and company's account number with Bucks Bank.
- Pay Bill (one at a time)
  - Choose from a list of Payees and the amount to pay. This should transfer the money from the Active Account to the Payee's account.
- Automatic Bill Payment - Setup a payment the will be processed monthly. This should include a Payee and amount.

Current Balance

- Show the current balance of the Active Account

Monthly Transaction List

- List the current month's transactions on the Active Account

Change Service Plan

- Choose new service plan from a list for the Active Account

Advance one Month

- Advances all of the bank's records one month.
- As part of this process any interest should be added to all accounts, automatic bills should be paid, and service fees should be withdrawn.

Data

The data is provided in a file, bucks_bank.txt in the following format:
Account number, opening balance.

Scoring

Flowchart/Pseudocode 10%
Evidence of planning, flowchart or pseudocode

Program 50%
The functionality and completeness of you program will be evaluated.

Presentation/Demo 10%
You will present your solution to the bank owner, who is not a computer programmer. Demonstrate the functionality and answer any questions they may have. Five minutes is the maximum time allowed for the Presentation.