

COSC 1336 — Fundamentals of Programming I

Exam 2 Project

Name _____

Write a program that will manage the bank statement of AllyBaba.. Make sure that we follow all the programming **styles (20% of the grade)** that we have learned in class:

- proper variable names
- use of functions
- readability
- comments/documentation

Project Description

Write a program to help you balance your checkbook at the end of the month. The program should have **the user enter the initial balance** followed by **a series of transactions**. For each transaction, first have the user enter a transaction type. The valid transaction types are:

- W – withdraw funds
- D – deposit funds
- E – Exit

For checks and deposits, the user should be prompted to enter the transaction amount.

Service Charges

- There is a \$0.25 service charge for each check written. Keep a running total of the service charges.
- Service charges are not deducted from the account balance until the end of the month.
- If the withdraw amount exceeds the balance, there will be \$20.00 service charge, plus the check will not clear the bank.

Output

After each transaction, display

- the command data (to confirm the transaction)
- the resulting account balances
- the total service charges accrued so far

At the end of the month, deduct the service charges and print the final balance.

Input validation

- If the transaction type is invalid, print an informative error message. Ignore the current transaction and have the user enter the next transaction.
- The transaction amount should be a positive number (larger than zero). If it is not, print an informative error message. Ignore the current transaction and have the user enter the next transaction.

Other requirements

- Do not use global variables in any assignment. A global variable is a variable that is declared outside any function.

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- All dollar amounts should be printed with 2 decimal places.

SAMPLE RUN (User entry is in RED)

User's Entry

AllyBaba Bank Monthly Statement

Enter the beginning balance: **900**

Select Transaction Type:

W - Process a check

D - Process a deposit

E - Exit

Enter transaction type: W

Enter Check amount: **50.00**

Processing Check for \$50.00

Processed Check for \$50.00

Current Balance: \$850.00

Service charge: \$.25 for writing a check

Accrued service charges: \$.25

Select Transaction Type:

W - Process a check

D - Process a deposit

E - Exit

Enter transaction type: W

Enter Check amount: **1250**

Processing Check for \$1250.00

Cannot Process Check for \$1250.00

Insufficient Balance

Current Balance: \$850.00

Service charge: \$20.00 for insufficient balance

Accrued service charges: \$20.25

Select Transaction Type:

W - Process a check

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D - Process a deposit
E – Exit

Enter transaction type: **D**
Enter transaction amount: **200**
Processing Deposit of \$200.00

Processed Deposit of \$200.00
Current Balance: \$1050.00
Accrued service charges: \$20.25

Select Transaction Type:
W - Process a check
D - Process a deposit
E – Exit

Enter transaction type: **E**
Processing end of month

End of Month Summary

Current Balance \$1050.00
Accrued service charges: \$20.25
End of month balance: \$1029.75
