

### Project 02 - Checkbook Balancing

Write a C++ 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:

- C - process a check.
- D - process a deposit.
- E - perform end of month processing and exit the program.
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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.

### Output

After each transaction, print

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

At the end of the month, deduct the service charges and print the final balance. Your program output should look something like this example (user input is shown in bold).

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

Example

Ally Baba Checkbook Balancing Program

Enter the beginning balance: **900**

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Select Transaction Type:

C - Process a check

D - Process a deposit  
E - Exit

Enter transaction type: **C**  
Enter transaction amount: **50.25**  
Processing check for \$50.25

Processed...  
Balance: \$849.75  
Service charge: \$.25 for a check  
Total service charges: \$.25

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

Enter transaction type: **C**  
Enter transaction amount: **250**  
Processing check for \$250.00

Processed...  
Balance: \$599.75  
Service charge: \$0.25 for a check  
Total service charges: \$.50

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

Enter transaction type: **D**  
Enter transaction amount: **200**  
Processing deposit for \$200.00

Processed...  
Balance: \$799.75  
Total service charges: \$.50

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

Processed...  
Enter transaction type: **E**  
Processing end of month  
Final balance: \$799.25