**Exercise 2: Hometown Bank Program**

**Plan:**

1. I will review all necessary steps and consider the structure needed for the pseudocode.
2. I will define variables for the account balance and overdraft fee.
3. I will create input prompts to gather user data, write out the process logic for fee calculation, and design the output display.

**Pseudocode:**

plaintext

Copy code

BEGIN Hometown Bank Program

// Declare variables

Number accountBalance, numberOfOverdrafts, overdraftFee, newAccountBalance

// Initialize variables

accountBalance = 0

overdraftFee = 0

// Input: Prompt the user for the account balance and number of overdrafts

PRINT "Enter the account balance:"

INPUT accountBalance

PRINT "Enter the number of times the account was overdrawn:"

INPUT numberOfOverdrafts

// Process: Compute the overdraft fee

IF numberOfOverdrafts > 0 THEN

overdraftFee = (accountBalance \* 0.01) - (numberOfOverdrafts \* 5)

ELSE

overdraftFee = 0

END IF

// Process: Compute the new account balance

newAccountBalance = accountBalance - overdraftFee

// Output: Display the calculated fee and new account balance

PRINT "Overdraft Fee: $", overdraftFee

PRINT "New Account Balance: $", newAccountBalance

PRINT "Thanks for using this program!"

END Hometown Bank Program

**Verification:**

* I will verify the pseudocode using a calculator to ensure the fee and new balance are calculated correctly.
* For example, if the account balance is $500 and there were 3 overdrafts, the fee calculation would be:

Overdraft Fee=(500×0.01)−(3×5)=5−15=−10 (Here, the condition prevents the fee from being negative, ensuring correct logic