Computer Programming II — Homework Assignment #11

Implement an ATM system whose requirements document is the same as that in Assignment #10. Your program must contain six classes: Account, BalanceInquiry, Deposit, Withdrawal, Transaction and BankDatabase defined in Account.h, BalanceInquiry.h, Deposit.h, Withdrawal.h, Transaction.h and BankDatabase.h respectively.

The record format of the binary file Accounts.dat:

int accountNumber; // account number

int pin; // PIN for authentication

double availableBalance; // funds available for withdrawal

double totalBalance; // funds available + funds waiting to clear

The screen dialog #1:

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| **Welcome!**  **Please enter your account number: 12345**  **Enter your PIN: 54321**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number: 98765**  **Enter your PIN: 56789**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $200.00**  **- Total balance: $200.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 2**  **Withdrawal options:**  **1 - $20**  **2 - $40**  **3 - $60**  **4 - $100**  **5 - $200**  **6 - Cancel transaction**  **Choose a withdrawal option (1-6): 2**  **Please take your cash from the cash dispenser.**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $160.00**  **- Total balance: $160.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number: 98765**  **Enter your PIN: 56789**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $160.00**  **- Total balance: $160.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 3**  **Please enter a deposit amount in CENTS (or 0 to cancel): 1000**  **Please insert a deposit envelope containing $10.00 in the deposit slot.**  **Your envelope has been received.**  **NOTE: The money deposited will not be available until we verify**  **the amount of any enclosed cash, and any enclosed checks clear.**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $160.00**  **- Total balance: $170.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number: 98765**  **Enter your PIN: 56789**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $160.00**  **- Total balance: $170.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number:** |

The screen dialog #2:

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| **Welcome!**  **Please enter your account number: 12345**  **Enter your PIN: 54321**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $1000.00**  **- Total balance: $1200.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 2**  **Withdrawal options:**  **1 - $20**  **2 - $40**  **3 - $60**  **4 - $100**  **5 - $200**  **6 - Cancel transaction**  **Choose a withdrawal option (1-6): 3**  **Please take your cash from the cash dispenser.**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $940.00**  **- Total balance: $1140.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number: 98765**  **Enter your PIN: 56789**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $200.00**  **- Total balance: $200.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 2**  **Withdrawal options:**  **1 - $20**  **2 - $40**  **3 - $60**  **4 - $100**  **5 - $200**  **6 - Cancel transaction**  **Choose a withdrawal option (1-6): 3**  **Insufficient cash available in the ATM.**  **Please choose a smaller amount.**  **Withdrawal options:**  **1 - $20**  **2 - $40**  **3 - $60**  **4 - $100**  **5 - $200**  **6 - Cancel transaction**  **Choose a withdrawal option (1-6): 2**  **Please take your cash from the cash dispenser.**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 1**  **Balance Information:**  **- Available balance: $160.00**  **- Total balance: $160.00**  **Main menu:**  **1 - View my balance**  **2 - Withdraw cash**  **3 - Deposit funds**  **4 - Exit**  **Enter a choice: 4**  **Exiting the system...**  **Thank you! Goodbye!**  **Welcome!**  **Please enter your account number:** |