

CENG 344 Lab Assignment 3

Write a java program that has 3 classes:

BankAccount <hr/> <div>-balance: double</div> <hr/> <div>+BankAccount(): Default Const. +BankAccount(): Overloaded Const. +setBalance(): void +getBalance(): int +deposit(double): void +withdraw(double): void +transfer(double, BankAccount)</div>	CheckingAccount <hr/> <div>-FREE_TRANSACTIONS: Static Final int -TRANSACTION_FEE: Static Final int -transactionCount: int</div> <hr/> <div>+CheckingAccount(double): Overloaded const. +deposit(double): void +withdraw(double): void +deductFees(): void</div>	SavingAccount <hr/> <div>-interestRate: double</div> <hr/> <div>+addInterest(): void</div>
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BankAccount class is the parent class of CheckingAccount and SavingAccount classes. You need to add getters and setters for each class variables. For saving accounts, there is no limits about transaction and for saving accounts, its required to calculate fee in the deductFees() function. You need to use the following formula in order to calculate the fee:

$\text{TRANSACTION_FEE} * (\text{transactionCount} - \text{FREE_TRANSACTIONS})$

In main you need to create two separate saving accounts and one checking account. Then you need to create a menu for the user. User may deposit, withdraw and transfer money. When user wants to exit, updated balance of each account will be printed.

Saving accounts have interest rate that is monthly applied on balance.

Sample Run:

Interest value for SavingAccount 1: **1.0**

Deposit for savingAccount 1: **50000**

Interest value for SavingAccount 2: **0.5**

Enter initial balance for CheckingAccount: **100**

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Choose operation:

1-deposit 2-withdraw 3-transfer 4-exit: **3**

Enter the Account type and number to transfer money from: **s1**

Enter the Account type and number to transfer: **s2**

Enter amount of money to transfer: **10000**

1-deposit 2-withdraw 3-transfer 4-exit: **3**

Enter the Account type and number to transfer money from: **s2**

Enter the Account type and number to transfer: **c1**

Enter amount of money to transfer: **2000**

1-deposit 2-withdraw 3-transfer 4-exit: **2**

Enter the Account type and number to withdraw money from: **c1**

Enter amount of money to withdraw: **1500**

1-deposit 2-withdraw 3-transfer 4-exit: **2**

Enter the Account type and number to withdraw money from: **c1**

Enter amount of money to withdraw: **500**

1-deposit 2-withdraw 3-transfer 4-exit: **4**

Balance at the end of the month:

Saving Account 1: **4040.0**

Saving Account 2: **7035.0**

Checking Account 1: **700.0**