

Encapsulation Assignment

In this application we are checking the account balance, depositing some amount and adding reward and again checking the account balance but In `DodgyBankAccount` account balance is getting manipulated whereas `SecureBankAccount` is catching this manipulation and giving warnings.

--- DODGY BANK ACCOUNT ---

Mmm...I spot a dodgy bank account! Let's make one!
What is my current balance?
Your account balance is 0
Let's deposit an amount of 30
Your account balance is 80
Wow! Looks like we get a reward of 50 when we deposit an amount
Let's be naughty and add rewards without depositing!
Your account balance is 230
Wow! We're rich!
Let's make a lot of money right now! Let's change the account balance directly!
Your account balance is 1000000
?? Weeeeeee!!!!

--- SECURE BANK ACCOUNT ---

Mmm...let's make a secure bank account!
What is my current balance?
Your account balance is 0
Let's deposit an amount of 30
Your account balance is 80
Wow! Looks like we get a reward of 50 when we deposit an amount
Let's be naughty and add rewards without depositing!
Oh no :(It looks like we can't do this - it's too secure!
Your account balance is 80
Let's make a lot of money right now! Let's change the account balance directly!
Oh no :(It looks like we can't do this - it's too secure!
Your account balance is 80
?? Well I guess that's secure!

In `DodgyBankAccount`

- ◆ Instance variables are public instead of private so anyone can change the value of variables which is breaking the rule of encapsulation
- ◆ Instance variable `RewardAmount` should be declared as a constant so that nobody can change the Reward amount
- ◆ Method name should be changed to `DisplayAccountBalanceDetails()` as method name should have some resemblance with its action so that by looking at the method name anyone can have idea of what action it is performing.
- ◆ Method `AddReward()` should be private instead of public so that no one can have reward without depositing the amount

DodgyBankAccount	SecureBankAccount
Instance variables are public (breaking the rule of encapsulation) so that anyone can change its value	By making Instance variables private it prevent it from direct access (well encapsulated)
Variable RewardAmount should be declare as constant as its value should not be changed	Variable Reward_Amount is declared as constant so that no one can change the Reward_Amount(well encapsulated)
Method GetAccountBalanceDetails() should be changed to DisplayAccountBalanceDetails() as it is performing the action of displaying account balance.	Method DisplayAccountBalanceDetails() named perfectly
In this class method AddReward() is public so anyone can call this method and add Reward amount to their account (not secure)	In this class method AddReward() is private so no one can have access to this method except the class in which it is defined (secure)