



United International University (UIU)

Dept. of Computer Science & Engineering (CSE)

CSE 1116: Object Oriented Programming Laboratory

Offline Assignment-01

Marks: 15

1. Create a class **Account** that contains **two** instance variables (String name, double balance). [8]
Initially, the balance is 0. The class also contains two methods: **withdraw** that takes a double parameter amount and reduces the balance value by that amount, if there is sufficient balance. Otherwise, the withdraw method **throws** a user-defined exception called **InsufficientBalance**. The other method is **deposit** that takes a double parameter amount and increases the balance value by that amount. For both of these methods if the argument amount passed is negative both will **throw** another user defined exception called **InvalidAmountArgument**.

InsufficientBalance class's **constructor** takes **two** parameters: the **current-balance** and **withdraw-amount** whereas InvalidAmountArgument class's constructor takes only a single argument that is the **negative-amount** passed to those methods. The InsufficientBalance class sets the exception message (using super call in the constructor) as follows:

Insufficient Balance. Current balance 100 is lower than the withdrawal amount 500. Here, the constructor parameters, current-balance value is 100 and withdraw-amount value is 500.

And the InvalidAmountArgument class sets the exception message as follows: Invalid Amount Value -100. Amount can't be negative.

Here, the constructor parameters, negative-amount value is -100.

Now, write the classes Account and InsufficientBalance

2. Create a Class named **Bishop**. Make sure the class **cannot be inherited**. If there have already been **5** objects initiated for this class, trying to initiate the 6th object, the **constructor** will **throw** a user-defined exception **BishopCreationLimitExceeded**. [7]

This class has an instance method named **printObjectNumber** which will print the object creation sequence number for the object for which you are calling the method as follows:

This Bishop Object number is 3.

Here, 3 is the object creation sequence number that is the third call to new Bishop() in your code that initiated the object.

The BishopCreationLimitExceeded class sets the exception message (using super call in the constructor) as follows:

The maximum number of bishop objects can be 5.

You can define instance variables in the Bishop class if you need them.

NB: If any copy is found the whole number will be deducted.