

COP 2337C

Lab 2

25 points

BankAccount Class

a) Create a class named **BankAccount**.

The class should contain:

- (1) A private data member called **balance** of type double.
- (1) A private data member called **interestRate** of type double.
- (1) A default constructor.
- (2) A parameter constructor with the following prototype:
`BankAccount(double bal, double ir);`
- (1) A public setter function, named **SetInterestRate()**, that makes it possible to assign an interest rate to the private data member *interestRate* of the class.
- (1) A public getter function, named **GetInterestRate()**, that is used to get the value of the private data member *interestRate*.
- (1) A public getter function, named **GetBalance()**, that is used to get the value of the private data member *balance*.
- (2) The following public member function:

`void MakeDeposit(double);`

This function allows the user to make a deposit in the amount of the parameter passed to the function.

- (2) The following public member function:

`void MakeWithdrawal(double);`

This function allows the user to make a withdrawal in the amount of the parameter passed to the function.

- (3) The following public member function:

`void Compound();`

This function adds interest to the balance using the following formula:

`balance = balance (1 + interestRate)`

Note: *interestRate* is a decimal (Eg. 6% = 0.06)

b) (5 pts) Create a UML diagram to represent the **BankAccount** class.

c) (5 pts) Create a driver class called *BankMain* to fully test your class.