Classes: ● Create a class called “Account”. This will hold things that are true for all account types. Be sure

to include at least: ○ An attribute which will hold the account number. ○ An attribute which will hold the account balance. (e.g. $500.22) ○ A constructor method which opens the account with a balance of 0. ■ It should set the account number using the static variable described above. ○ An overloaded constructor which opens the account with a specific amount which is

passed to the constructor. ■ It should set the account number using the static variable described above.

○ Getter method for accessing the account_number. ○ Getter/Setter method for accessing the account balance. ○ A withdrawal method which takes a parameter of the amount to be withdrawn and

deducts it from the balance.

○ A deposit method which takes a parameter of the amount to be deposited and adds it to

the balance.

● Create a class called “Checking” which should inherit from Account. ○ You will need an appropriate constructor to set the account balance. ○ Modify the withdrawal method you inherited to check for the condition where they try to
overdraft their account. ■ If an overdraft condition occurs you should print out “Charging an overdraft fee
of $20 because account is below $0”

■ Deduct $20 from their balance.

● Create a class called “Savings” which should inherit from Account. ○ You will need an appropriate constructor to set the account balance. ○ Modify the withdrawal method so it implements the rules about dropping below $500 ■ If they drop below $500, you should print “Charging a fee of $10 because you are

below $500”

■ Deduct $10 from their balance.

○ Modify the deposit method so it implements the charge for more than 5 deposits. ■ As you do the deposit you should print “This is deposit 1 to this account”, where 1 would be updated to reflect what number deposit this is. ■ If you are doing the 6th or later deposit, print “Charging a fee of $10”, and deduct

$10 from their balance.

○ Add a method which adds 1.5% interest to the account. (This method will be called by

the teller manually once per year). ■ Print out how much the customer earned in interest as follows “Customer earned
15.25 in interest”. Of course it should reflect the actual amount.

■ Add the interest earned to their balance.

All classes should be created with appropriate encapsulation. i.e. account balances and account numbers should be private and only accessible via getters/setters.

Don’t worry about the formatting of the dollar figures. i.e, sometimes the interest will be

2.585828225 and that’s ok. Likewise sometimes the balance will be 100.5 and that’s ok for this lab. Driver:
Create a

A UML diagram in PDF format.

Please follow the posted submission guidelines here:

https://ccse.kennesaw.edu/fye/submissionguidelines.php

Ensure you submit before the deadline listed on the lab schedule for CSE1322L here:

https://ccse.kennesaw.edu/fye/courseschedules.php

Sample Output:

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

3

How much would you like to deposit into Checking?

50

Doing default deposit

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

1

How much would you like to withdraw from Checking?

30

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

5

Your balance for checking 10001 is 20.0

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

1

How much would you like to withdraw from Checking?

30

Charging an overdraft fee of $20 because account is below $0.

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

5

Your balance for checking 10001 is -30.0

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

6

Your balance for savings 10002 is 0.0

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

4

How much would you like to deposit into Savings?

500

This is deposit number 1 to this account.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 4
How much would you like to deposit into Savings? 300
This is deposit number 2 to this account.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 6Your balance for savings 10002 is 800.0

1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 4
How much would you like to deposit into Savings? 100
This is deposit number 3 to this account.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now
8. Quit

4
How much would you like to deposit into Savings? 100
This is deposit number 4 to this account.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 4
How much would you like to deposit into Savings? 100
This is deposit number 5 to this account.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 4
How much would you like to deposit into Savings? 100
This is deposit number 6 to this account. Charging a fee of $10.
1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings
5. Balance of Checking
6. Balance of Savings
7. Award Interest to Savings now

8. Quit 6Your balance for savings 10002 is 1190.0

1. Withdraw from Checking
2. Withdraw from Savings
3. Deposit to Checking
4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

7

Customer earned 17.849999999999998 in interest

1. Withdraw from Checking

2. Withdraw from Savings

3. Deposit to Checking

4. Deposit to Savings

5. Balance of Checking

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

6

Your balance for

6. Balance of Savings

7. Award Interest to Savings now

8. Quit

8