

CSF-510 Application Development

Assignment 4

Due Date: 17th October 2021

Marks: 5 marks

Note: Plagiarism will lead to ZERO marks

1. Create a Python class called **Account** which represents a bank account, having as attributes:
 - a. **accountNumber** (String),
 - b. **name** (name of the account owner as string type),
 - c. **balance** (Numeric) [Note that the balance of an account may only be modified through the deposit() and withdraw() methods]
2. Write a **constructor** with parameters: **accountNumber**, **name**, **balance**.
3. Create a **deposit()** method which manages the deposit actions.
4. Create a **withdrawal() method** which manages withdrawals actions. If the account balance is less than the withdrawal amount, then print warning.
5. Create a **display()** method to display account details.
6. Create a **getbalance()** method to return current account balance.
7. Using the **Account** class as a base class, write two derived classes called **SavingsAccount** and **CurrentAccount**.
8. A **SavingsAccount** object, in addition to the attributes of an Account object, should have an **interest** variable and a method which adds interest to the account. Use **getbalance()** method to retrieve current balance.
9. A **CurrentAccount** object, in addition to the attributes of an Account object, should have an **overdraft limit** variable. Ensure that you have overridden methods of the Account class as necessary in both derived classes.

10. Now create a **Bank** class, an object of which contains a **list of Account** objects.

Accounts in the list could be instances of the **SavingsAccount** class, or the **CurrentAccount** class. Create at least six test accounts (3 of each type).

11. Write an **update** method in the bank class. It iterates through each account, updating it in the following ways: **Savings accounts** get interest added (via the method you already wrote); **CurrentAccounts** get a warning if they are in overdraft.