**MIAMI DADE COLLEGE  
School of Engineering and Technology  
  
COP 2800 - Java Programming**

**Project 4**

**Due On: 10/14/2019 by 5:00 PM**

**(Hard deadline. No late submissions accepted)**

Modify project 3 as follows:

Add the following to the **BankAccount** class:

1. Add a new private field **password** of type String.
2. Add an accessor method for the **password** field.
3. Modify the **no-arg constructor** to create a default account:
   1. Initialize the accountId with a randomly generated **4 digit String**.
   2. Initialize the password with a randomly generated **4 letter String**.
   3. Default accountBalance to 0.
4. Modify the **Two-arg** **constructor into a three-arg constructor** to create an account with a specific name, annual interest rate (default to 4.5%) and an initial balance (constructor arguments).
   1. Initialize the accountId with a randomly generated **4 digit String**.
   2. Initialize the password with a randomly generated **4 letter String**.

Write a test program (class TestBankAccount) that completely tests the BankAccount and all related classes.

1. Displays a menu for the user with the following options (use an input dialog with a list):

Please Choose an Action

1. Create a New Account
2. Deposit
3. Withdraw
4. Display Balance
5. Exit
6. If the user selects option 1:
   1. Display an input dialog(s) asking for the user’s name, initial amount and type of account (Basic, Savings, Current).
   2. Create a new account and set the user name and amount.
   3. Display the accountId and password for the user.
   4. Redisplay the main menu.
7. If the user selects option 2:
   1. Display an input dialog(s) asking for the amount to deposit and the accountId and password for the account where the money will be deposited.
   2. Add the deposit amount to the appropriate account
   3. Redisplay the main menu.
8. If the user selects option 3:
   1. Display an input dialog(s) asking for the amount to withdraw and the accountId and password for the account from where the money will be withdrawn.
   2. Verify the count has enough money to satisfy the transaction. Show an error message if it doesn’t.
   3. Subtract the withdraw amount from the appropriate account.
   4. Redisplay the main menu.
9. If the user selects option 4:
   1. Display an input dialog(s) asking for accountId and password and display the type of account, account balance, interest rate and date created (message dialog).
   2. Redisplay the main menu.
10. If the user selects option 5:
    1. Display a confirm dialog with the message “Do you Want to Exit?”
    2. Exit if the user answers YES.
    3. Redisplay the main menu if the user answers NO.