Object Oriented Programming (IGS2130)

Lab 9

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OOP Project: Step 05

■Create two classes to our bank application

➢Class name: SavingAccount

- Inherit from Account class
- Contains *interest rate* member
  - The *interest rate*(%) is determined by the argument of the class constructor

➢Class name: HighCreditAccount

- Inherit from SavingAccount class
- Has two interest rate: *interest rate* (defined in SavingAccount class) and *special interest rate*
  - *special interest rate*(%): depending on the given *credit rating*(A, B, and C), additional interest will be set at 7%, 4% and 2%, respectively.

- To make the program simple, the interest will be paid when you make a deposit.
- Make the deposit() member function virtual, so AccountHandler class can call the most derived deposit() member function

OOP Project: Step 05

■ Modify AccountHandler class

➢ Change the program menu to reflect the account type

- Modify MakeAccount() function to select account type. According to the selected account type, this function will call MakeSavingAccount() or MakeHighCreditAccount().

- Create a MakeSavingAccount() function that creates a saving account

- Create a MakeHighCreditAccount() function that creates a high credit account

OOP Project: Step 05

■ The program should work like the example below:

```
-----Menu------
1. Make Accout
2. Deposit
3. Withdrawal
4. Display all
5. Exit program
Select menu: 1

[Select Account Type]
 1. Saving Account
 2. High Credit Account
 Select: 1
[Make Saving Account]
Account ID: 1
Customer Name: Kim
Deposit amount: 10000
Interest Rate: 4
```

```
-----Menu------
1. Make Accout
2. Deposit
3. Withdrawal
4. Display all
5. Exit program
Select menu: 1

[Select Account Type]
 1. Saving Account
 2. High Credit Account
 Select: 2
[Make High Credit Account]
Account ID: 2
Customer Name: Lee
Deposit amount: 10000
Interest Rate: 4
Credit Rating(A:1, B:2, C:3): 1
```

```
-----Menu------
1. Make Accout
2. Deposit
3. Withdrawal
4. Display all
5. Exit program
Select menu: 4

Account ID: 1
Name: Kim
Balance: 10400

Account ID: 2
Name: Lee
Balance: 11100
```
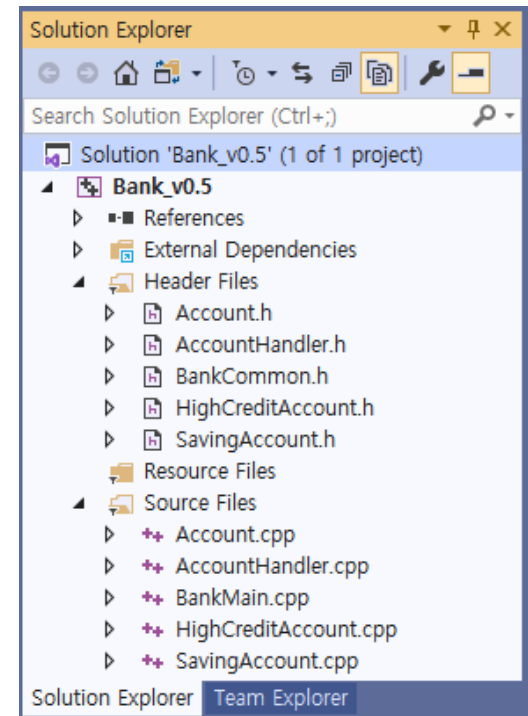
OOP Project: Step 05

■ Dividing the source code into several files

➢ Usually, for each class, the class definition is saved in a .h file and the implementation is saved in another .cpp file.

➢ Organize the source code by dividing it into a total of 10 files.

- BankCommon.h
- Account.h
- Account.cpp
- SavingAccount.h
- SavingAccount.cpp
- HighCreditAccount.h
- HighCreditAccount.cpp
- AccountHandler.h
- AccountHandler.cpp
- BankMain.cpp

Solution Explorer

Search Solution Explorer (Ctrl+;)

Solution 'Bank_v0.5' (1 of 1 project)
- Bank_v0.5
  - References
  - External Dependencies
  - Header Files
    - Account.h
    - AccountHandler.h
    - BankCommon.h
    - HighCreditAccount.h
    - SavingAccount.h
  - Resource Files
  - Source Files
    - Account.cpp
    - AccountHandler.cpp
    - BankMain.cpp
    - HighCreditAccount.cpp
    - SavingAccount.cpp

Solution Explorer | Team Explorer

➢ Include all the files in your project and make the project compliable.