National University of Computer and Emerging Sciences

Lab Manual
Object Oriented Programming

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Objectives

- ✓ Virtual functions and destructors
- ✓ See polymorphism in action

Exercise 1:

- Create a class called `Account`.
- It has data member:
    - Account Number.
    - Account Balance.
- And suitable setter/getter for data.
- And Print(), Debit(float), Credit(float) as member functions (virtual).
    - override Debit and Credit functions according to derived classes.

Exercise 2:

- Create a class called CurrentAccount i-e: CurrentAccount(is-a) Account
- It has data member:
    - Service Charges (To be charged during credit if account balance is less than min balance)
    - Minimum Balance
- Override print() as created in above class which displays:
    - Account Number, Account Balance, Minimum Balance, Service Charges
- Modify the definition of the print() so that it displays a suitable message containing above info.
- Similarly override credit(float), debit(float) functions such that credit(float) simply add amount to the Account Balance and debit(float) checks if the amount to be debited is within the range of Account Balance, and further if the amount is account balance is less than min balance standard charges would also be deducted.
- Create a class called SavingAccount i-e: CurrentAccount(is-a) Account
- It has data member:
    - Interest Rate.
- Override print() as created in parent class which displays:
    - Account Number, Account Balance, Interest Rate
- Modify the definition of the print() so that it displays a suitable message containing above info.
- Similarly override credit(float), debit(float) functions such that credit(float) simply add amount to the Account Balance and debit(float) checks if the amount to be debited is within the range of Account Balance.
- Write a suitable main function of your program, in which you have to Call the functions (print, debit, credit) of CurrentAccount class according to the type of object. To accomplish this, we handle the keyword virtual to the declaration of the print() method in the Base class. Make sure that print function of the calling object is called.

Specifying a function as virtual makes sure that whenever we use a base class pointer pointing to an object of a derived class to call a function, the definition of the method declared in the derived class is used.