FACULTY OF COMPUTER SCIENCE AND ENGINEERING
Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Topi

Lab Duration: 3 hrs. **CS112 Object Oriented Programming Lab** **Marks: 10**

Lab No: 08 **Instructor: Mr. Usman Haider** **Dated:18/04/2022**

Before performing tasks, keep in mind the following rules:

1. **CHEATING IS NOT ALLOWED. Looking at someone else's screen is also cheating.**
2. **Mobile phone and internet usage are not allowed.**
3. **If you have any queries related to a task, you can ask instructors only. Never talk to each other until you are allowed.**
4. **Do not answer any query until you are asked.**
5. **Perform all the tasks.**
6. **Avoiding any of the above rules will lead to marks deduction.**

TASK 1:

a) Define the class bank Account to store a bank customer's account number and balance. Suppose that the account number is of type int, and the balance is of type double. Your class should, at least, provide the following operations: set the account number, retrieve the account number, retrieve the balance, deposit and withdraw money, and print account information. Add appropriate constructors.

b) Every bank offers a checking account. Derive the class **checkingAccount** from the class **bankAccount** (designed in part (a)). This class inherits members to store the account number and the balance from the base class. A customer with a checking account typically receives interest, maintains a minimum balance, and pays service charges if the balance falls below the minimum balance. Add member variables to store this additional information. In addition to the operations inherited from the base class, this class should provide the following operations: set interest rate, retrieve interest rate, set minimum balance, retrieve minimum balance, set service charges, retrieve service charges, post interest, verify if the balance is less than the minimum balance, write a check, withdraw override the method of the base class), and print account information. Add appropriate constructors.

c) Every bank offers a savings account. Derive the class **savingsAccount** from the class **bankAccount** (designed in part (a)). This class inherits members to store the account number and the balance from the base class. A customer with a savings account typically receives interest, makes deposits, and withdraws money. In addition to the operations inherited from the base class, this class should provide the following operations: set interest rate, retrieve interest rate, post interest, withdraw (override the method of the base class), and print account information. Add appropriate constructors.

d) Write a program to test your classes designed in parts (b) and (c).

Good Luck ☺