Assignment # 1

Object Oriented Programming

BSCS-2A – Spring 2022

Objectives:

This assignment is aimed at designing a simple class modeling a real-world entity and implementing the same in C++. Students will be familiarized with access specifiers, data members and member functions to manipulate the data.

Problem Description

Consider the following class "Account" to model a bank account in the real world.

```
class Account{
private:
   string accountNo; //Account Number
   int balance; //Total Balance in the account
   bool isActive; //True if the account is active else false
   int minBalance; //Minimum balance that must be maintained
   char accountType; //'S' for saving and 'C' for current
};
```

Add the following functionality to the class.

- No-argument and parameterized constructors to initialize the data members.
- Separate set() and get() methods for each of the data members.
- A member function to print the details of an account.
- Member functions to deposit and withdraw amount from an account. The program must ensure that transactions are made only in an active account respecting the account limits.
- Add a function to calculate the bank deductions. For current accounts there are not deductions while for saving accounts 2.5% of the balance must be deducted.

Write a driver program to test the functionality of the class by creating an object of account and performing few transactions.

Furthermore, write a global (stand-alone) function:

```
bool transfer(Account &source, Account &destination, int amount)
```

The function should transfer the passed amount from source account to the destination account and returns the appropriate status (true in case of success and false otherwise).

Submission Procedure

- Make and execute the program and then submit a **single PDF file** containing source code of your WORKING program. Please add a screen shot of output screen in the PDF file.
- Assignments are to be submitted through Bahria University **LMS only**. Assignments cannot be accepted through any other channel (email etc.). Assignments sent through other channels cannot be marked.
- ZERO credit for all plagiarized assignments.
- This is an **INDIVIDUAL** and NOT a group assignment.
- 90% marks will be for meeting all requirements while 10% marks will be for adhering to good design and good programming practices.

Submission Date:

Assignments are to be submitted on or before **March 31st, 2022.** **The LMS system will not be able to accept late submissions.**

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