Week 5: String Class, Array of Objects, Reference Variable, Use of Project feature in CodeBlocks IDE.
Term Project Proposal Discussion

Learning Materials: Chapter 7

Demonstration:

1. Create a Project in codeblocks IDE to Implement.

Task 1:

Create a **SavingsAccount** class. An object of this class has Account Name (type: String), Account Holders Name (type: String), Address (type: String multiline input), and Annual Interest rate (yearly interest rate), currentBalance.

Provide a public getter setter function for each member variable.

Provide deposit and withdrawal functions (public) with necessary checking.

Provide a public member function **double calculateInterest(int periodInMonths)** that calculates the interest based on the minimum balance of that account (up to the last interest disbursed) and return it. Ensure that this function will not change any member data.

Provide a public member function **disburseInterest**(**int periodInMonths**) which will deposit the amount of interest and reset the minimum balance.

Write a driver program to test the class SavingsAccount.

Create 100 **SavingAcoount** objects.

Write a function (non-member) void **EditInformationByKeyboard**() that takes a SavingAccount object as parameter. This function will take input from the keyboard and set the member variable. Now call this function for the first 2 objects.

Write a function (non-member) void **generateInformaiotnRandom**() takes a SavingAccount object as parameter. This function will assign the value randomly from a range. Call this function for the remaining objects.

Account Name (type: String): Comprising two words. Each word has a length of 4-10.
Account Holders Name (type: String): Comprise of two words. Each word has a length of 4-10.
Address (type: String): Comprise of 5 words. Each word has a length of 4-10.
Annual interest rate (yearly interest rate): 2~5 percent with 0.10 step.
Current Balance : 1000 tk ~ 50000 tk.

Write a function (non-member) void ShowInterestAll(SavingAccount ar[]) that displays the interest amount of all accounts. Ask for the confirmation to confirm disbursement.

Write a function (non-member) void **ShowAllAlphabetically**(SavingAccount ar[]) that displays all the account name and its current balance according to the alphabetical order of account name.

Task 2:

Let employee information system of an institution keeps the records of every employee's name, date of birth and their respective salaries. Create a class called employee that will allow you to store all these information regarding an employee.
Write getter and setter functions for all the member variables. (getter function return the value and setter function assign the value from the parameter to the member variables). Before setting any value to the member variables you need to check for these
Name: The length has to be more than two. Otherwise assign the default name John Doe
Date of Birth: Every employee has an age higher than 18. If an invalid value is given, assign 1 January 2002.

Salaries: The salary has to be in between BDT 10000 to BDT 100000. If an invalid value is given, assign BDT 10000.

Define setInfo() function which will take input from the keyboard and call all the setter functions to set the necessary information of an employee object.
Define a function named getInfo() which will display all the stored information belonging to an employee object using the return value of the getter function.

All the member variables for the employee class should be private.

Convert all the suitable functions to const member functions.
Include one more const member function named Employee compareAge(Employee e) which will return the elder employee object based on the date of birth.