## Assignment 3 (40 Points)
## Due on November 16

**Problem 1: Bank Account Management System**

Create a simple bank account management system using classes. The program should display a welcome header saying, "Welcome to Chase" and say, "Type a number that you would like to perform". The system should support the following operations:

1. Create a new bank account with an initial balance.
2. Deposit money into an account.
3. Withdraw money from an account.
4. Display the current balance of an account.

If the user chooses 1, then you will ask the user for their name and the initial balance number. Once the user enters the name and the initial balance, the system will use srand() to generate an account number and once that is done, it will then display an output saying that the account has been created successfully and display their balance and their account number. All that information should be saved into an array. Once that is done, then prompt the user to press any key to return to Main Menu.

If the user chooses 2, then you will ask the user to enter their account number. Once they enter an account number, then the system will perform the search to see if the account number exists. If the account number exists, then ask the user to enter the balance that they will be depositing and then from there, pull up their balance and add their current balance with the balance that they will be depositing and then from there, display the amount that they have deposited and their current balance and then from there, prompt the user to press any key to return to the Main Menu. If the account number does not exist, then let the user know that the account number does not exist and then prompt them to click any key to go back to Main Menu.

If the user chooses 3, then you will ask the user to enter their account number. Once they enter an account number, then the system will perform the search to see if the account number exists. If the account number exists, then ask the user to enter the balance that they will be withdrawing and then from there, pull up their balance and subtract their current balance with the balance that they will be

withdrawing and then from there, display the amount that they have withdrawn and their current balance and then from there, prompt the user to press any key to return to the Main Menu. If the account number does not exist, then let the user know that the account number does not exist and then prompt them to click any key to go back to Main Menu.

If the user chooses 4, then you will ask the user to enter their account number. Once they enter an account number, then the system will perform the search to see if the account number exists. If the account number exists, then display the current balance of the account and then from there, prompt the user to press any key to return to the Main Menu. If the account number does not exist, then let the user know that the account number does not exist and then prompt them to click any key to go back to Main Menu.

**Sample Output:**
***************Welcome to Chase***************
Please choose one of the following operations

1- Create a new bank account with an initial balance
2- Deposit Money to an Account
3- Withdraw Money from an Account
4- Display Current Balance of an Account

**//If 1 is selected**
Enter your name: _____
Enter your initial balance: _____

//After submitting
Congratulations (name)! You have successfully opened your new bank account with an initial balance of $(initial balance)). Your account number is (account number).

Press any key to return to Main Menu!

**//If 2 is selected**
Enter the account number: _____

//If account number is found
Enter the amount that you would like to deposit: _____

//After submitting this
Congratulations (name)! You have successfully deposited the amount of $(deposit) in your account #(account number). Your current balance is $(total).

Press any key to return to Main Menu!

//If account number is not found
No account number exists!
Press any key to return to Main Menu!

**//If 3 is selected**
Enter the account number: _____

//If account number is found
Enter the amount that you would like to withdraw: _____

//After submitting this
Congratulations (name)! You have successfully withdrawn the amount of $(deposit) in your account #(account number). Your current balance is $(total).

Press any key to return to Main Menu!

//If account number is not found
No account number exists!
Press any key to return to Main Menu!

**//If 4 is selected**
Enter the account number: _____

//If account number is found
Your current balancer is $(balance).
Press any key to return to Main Menu!

//If account number is not found
No account number exists!
Press any key to return to Main Menu!

**Starter Code:**

```cpp
1   #include <iostream>
2   #include <string>
3   using namespace std;
4
5   class BankAccount {
6   private:
7       string accountHolderName;
8       int accountNumber;
9       double balance;
10
11  public:
12      // Constructor to initialize the account details
13      BankAccount(string name, int number, double initialBalance) {
14          accountHolderName = name;
15          accountNumber = number;
16          balance = initialBalance;
17      }
18
19      // Function to deposit money
20      void deposit(double amount) {
21          // Add the 'amount' to the balance
22          // Update the balance
23      }
24
25      // Function to withdraw money
26      void withdraw(double amount) {
27          // Check if the 'amount' can be withdrawn (i.e., not exceeding the balance)
28          // If yes, withdraw the 'amount' and update the balance
29          // If no, display an error message
30      }
31
32      // Function to display the account balance
33      void displayBalance() {
34          // Display the current balance
35      }
36  };
37
38  int main() {
39      // Create a BankAccount object
40      // Prompt the user to perform account operations (deposit, withdraw, display balance)
41      // Perform operations and display results
42
43      return 0;
44  }
```

**Deliverables:**

- A zip file uploaded to Github consisting the following items:
  - C++ project (Can be altogether in its separate cpp files for all problems in this assignment or can be in separate projects as well for each problem)
  - Comments on your C++ source code
  - Readme.md in Github that will contain the following information:
    - Overview of your app (What is it, who is the intended audience, problem statement)
    - Features of the app
    - How to run the app
  - Your output