Program 3

Deadline: Sunday, March 6, 2022, by 11:59 PM

**KC Bank Accounts**

**The assignment problem:**

You are asked to develop an application that prints a bank's customer's names, IDs, and accounts balances in different ways. In this program, you need to read a file of customers' data into different arrays, pass these arrays to functions as (array parameter), calculate the total balance for all customers, then print some information.

The input file "input.txt" contains the following information (ID, first name, last name, savings account balance, checking account balance). You have to store these columns in different arrays where each index represents customer data.

**Preliminaries**

1. We will consider the file contains ten rows maximum. So all your arrays size must be at least 10.
2. Since the size of all the arrays is 10, it is better to create a constant variable with the value ten than hard-coding the array's size.
3. Create five different arrays with different types based on the data in the file (for ID, First, Last, saving, and checking)
4. Create a "switch" statement with four options, and the output should be generated based on the chosen option. Check the options below:

1. Print customer information

2. Print all customer Names (First, Last) ordered by their First Name. Also, print the total number of customers

3. Print the total amount of money for each customer and the Bank's total amount.

4. Enter q/Q to quit

**Required functions:**

1. A function "printCustomersData" should be called when the user chooses the first option. This function is of type void (it does not return anything). "printCustomersData" function should print a table of the customers' data with the following order format:

**"LastName, FirstName, ID, Saving Account, Checking Account."**

1. The function "printNames" will print the Names (first and last) of customers in alphabetic order by their First name. Note that if two customers have the same First name, their Last name will break the tie (See Sample Output for reference). This function will also output the total number of customers in the Bank.

**"FirstName , LastName"**

**'Total customer is : 'x' customers'**

1. The function "printBankTotal" prints all customer information with the total money customers have in the Bank. It will also print the summation of the balance of all customers' saving accounts ($17410.31) and the summation of all customers' checking accounts ($27430.01).

Note: Bank Total Amount at the end should be $44840.3

1. If the user entered something, not in the options such as the letter' a', the application should not be terminated. Instead, the application should print a message that tells the user that their input was incorrect. Then, the options should be displayed again, and the application should ask the user to enter another option.
2. The Menu options will be printed after each selection, even when the user enters an invalid value. The only way to terminate the program is to enter 'q' or 'Q,' the fourth option.

**Hints:**

1. Create an "if" statement to check if the file reading process went well. You can use many expressions such as: (!fin) or (fin.fail()), etc.
2. Use the function "setw(number)" that helps you print the data in a table shape. This function sets the number of spaces for each output. The function is in the <iomanip> library.
3. Your output should be displayed in an organized format. Please see the sample output below for reference.
4. Save the whole project and zip it before uploading it to Canvas. (Do not submit only the '.cpp' file, and do not copy and paste your code to a '.txt' file or Word file).

**Sample output:**

**Text

Description automatically generatedText

Description automatically generated**

**Text

Description automatically generatedText

Description automatically generated**

**Submission:**

* Zip up your entire project folder and submit the zip file to Canvas **by the deadline.**