CS-311: Data Structures & Algorithms
Lab 1: Search Algorithms:
Bank Account Search Database
Due Date: 09/03/2020

Problem:

Part 1: The Customer Class
The file *Customer_data-sorted.txt* contains the account information for 1000 bank customers. Using C++ implement a bank customer class for creating bank customer objects. Next create customer objects for all 1000 customers and store the objects in a C++ array. Use the C++array containing the bank customer objects as the search database.

Part II: Binary Search
Implement the generalized version of the *binary search algorithm* for querying customer information in the search database (i.e. array of customer objects). The database would be search by using the *customer ID number* as the query value or target (i.e. key field).

To query the database the user enters the ID number of a bank customer. If the ID number is found in the database, the program displays the following information:

1. The number of comparisons (or iterations) it took to find the customer ID Number.
2. The position of the found customer record in the search database (i.e. position in the array).
3. The found customer detailed bank account information.

Part III: Database Queries
Query the database for customer records by using the following bank customer ID numbers:
1088680
7534209
4089085
6304508
9547000

Instructions:
1. No global variables are allowed.

Turn in the following:
1. Your C++ source code for the program.

Grading Criteria:
1. Source code. **(50 % maximum)**
2. Program output (**50% maximum**)

Turn in your Solution on Canvas

Good Luck!