COMP 2247 Fall 2025 Assignment 6 Total 10 points

1. Create a class with a method that accepts a charge account number as its argument. The method should determine whether the number is valid by comparing it to the following list of valid charge account numbers:

5658845 4520125 7895122 8777541 8451277 1302850

8080152 4562555 5552012 5050552 7825877 1250255

1005231 6545231 3852085 7576651 7881200 4581002

These numbers should be stored in an array. Use a sequential search to locate the number passed as an argument. If the number is in the array, the method should return true, indicating the number is valid. If the number is not in the array, the method should return false, indicating the number is invalid.

Write a program that tests the class by asking the user to enter a charge account number. The program should display a message indicating whether the number is valid or invalid.

1. Modify the program you wrote for question 1 so it performs a binary search to locate valid account numbers. Use your choice of sorting algorithm to sort the array before the binary search is performed.

**Due date: Wednesday 10/29/2025**

* To receive full credit, the assignment must be submitted by the due date. Late submissions will incur a penalty of 5% per day.
* To submit the assignment, make a zip file of the entire project and upload it to D2L. If you wrote the program with individual source files, upload them to D2L.
* For the written questions, submit the answer sheet to D2L.

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