CITP 190 – Introduction to Java
Project 12

This project requires you to create one project. The project will work with a text file. Please be sure to download and unzip the project start files.

To receive full credit for this project you must submit the following:

- A detailed design diagram for each source file.
- The source code for the project (the .java files) following the coding standards.
- The bytecode for the project (the.class files).
- Proof of the correctness of your output using the test data provided. Please note that you must provide proof for all test data. You may provide additional test data.
- A capture of the output of the program. The output must show all data from your proof.

Submit all files as one (1) ZIP file to the Project 12 Drop Box in the course site.

Grading:

Program design	5 points
Design diagrams	5 points
Following course standards	5 points
Proof	3 points
Screen captures	2 points

Important notes:

1. Incorrect calculations will result in a 0 grade for this project.
2. Output that is not presented as shown (including spaces and spelling) will result in a 0 grade for this project.
3. Code that does not follow the standards will result in a 0 grade for this project.
4. Uploading more than one zip file will result in a 0 grade for this project.
5. Not using all the test data provided will result in a 0 grade for this project.

Project 12: Maintain customer data (text file)

Console

```
Welcome to the Customer Maintenance application

COMMAND MENU
list    - List all customers
add     - Add a customer
exit    - Exit this application

Enter a command: list

CUSTOMER LIST
frank46@hotmail.com               Frank              Jones
sarah_smith@yahoo.com             Sarah              Smith

Enter a command: add

Enter customer email address: test@gmail.com
Enter first name: text
Enter last name: test

text test was added to the database.

Enter a command: lsit

The valid commands are: list, add, and exit.

Enter a command: list

CUSTOMER LIST
frank46@hotmail.com               Frank              Jones
sarah_smith@yahoo.com             Sarah              Smith
test@gmail.com                    text               test

Enter a command: exit

Bye.
```

Operation

- This application begins by displaying a menu with three choices: list, add, and exit.
- If the user enters “list”, the application displays the customer data that’s stored in a text file.
- If the user enters “add”, the application prompts the user to enter data for a customer and saves that data to the text file.
- If the user enters “exit”, the application displays the goodbye message and exits.
- If the user enters any other string, the program displays the error message and requests the user to enter a command.

Specifications

- Use the Customer class that is provided.
- Can read and write the customer data file that is provided.
- Create a CustomerIO class (similar to the AddressBookIO class from Project 6) that handles the actual reading and writing of the file. The method that writes to the file must accept an object of the Customer class as its parameter and must not require the user to enter any data. You may "borrow" code from the AddressBookIO class but you must make sure you comment that you have borrowed it from the class and make sure that you comment any changes that you make to that code.
- Create a CustomerMaintApp class that displays the prompts shown in the console output and accepts the user entries. This class should perform the expected operations.
- Use the Validator class or a variation of it (from another project) to validate the user's entries. Non-empty strings are required for the email address, first name, and last name. You do not need to validate that the user entered a correctly formatted email address.
- Data that is aligned in columns when the user enters "list" is preferred, but any readable output is acceptable.

Test Data

Command	Email Address	First Name	LastName
list			
add	KnightB@lcc.edu	Brent	Knight
add	planter1@apples	Johnny	Appleseed
adr			
list			
add	plugh@zork	James	Sonic
list			
xeit			
exit			

Note: enter the email address as shown. They are not error data and should not be corrected.

Proof

For this program the proof for "list" commands is to show what the program will display. The proof for "add" commands is to show what the file will contain.