CSE 101 Programming Assignment 4

Due:

 Friday, 23-December-2022 by 23:59

Deliverables:

 The following Java files should be submitted to MS Teams by the due date and time specified above. Submissions received after the deadline will be subject to the late policy described in the syllabus.
 o StoreUsingFiles_{StudentNumber}.java

Specifications:

Overview: You will continue the program this week to maintain the inventory for a store. Do not forget your headers with @author and @since information. This program will be expanded in CSE 102, so be sure you understand the concepts covered in this program.

 Requirements: Write a program that will read files for both the inventory of a store and the items requested by a customer. It will then write three files to show the results of filling a customer's order.

 To facilitate the execution of this program, you will write (at minimum) the following methods:
 1. countProducts(filename)
    a. A new method to determine how many items are in the store inventory
    b. Takes String representing the filename as a parameter
    c. Reads the file and counts the lines in the file
    d. Returns an integer for the number of lines in the file
 2. getProductInfo(itemID, itemName, quantity, price, filename)
    a. A new method to fill the arrays with the inventory information
    b. The file will be read and the values put into the arrays
    c. The file will have the format of item ID, name, quantity, price separated by spaces
    d. It will take five parameters
       i. String array for item IDs (a four character unique ID)
       ii. String array for names of the items in stock
       iii. Integer array for number of each item
       iv. Decimal array for price of each item
       v. String for the filename
    e. Returns None

3. writeProductInfo(itemID, itemName, quantity, price, filename)
    a. A new method to write an output file with updated inventory information
    b. The file will have the format of item ID, name, quantity, price separated by spaces
    c. It will take five parameters
        i. String array for item IDs (a four character unique ID)
        ii. String array for names of the items in stock
        iii. Integer array for number of each item
        iv. Decimal array for price of each item
        v. String for the filename
    d. Returns None
4. main(args)
    a. You will have a main method in this program
    b. We will pass the base filename as the command line argument
    c. It will
        i. Read the inventory from a file called {base filename} + "_ProductInfo.txt"
        ii. Read the customer requests from a file called {base filename} + "_Order.txt"
        iii. Write the customer receipt to a file called {base filename} + "_Receipt.txt"
        iv. Write any errors to a file called {base filename} + ".log"
        v. Write the resulting inventory to a file called {base filename} + "_ProductInfoAfterOrder.txt"
    d. Returns none
5. Any other methods you feel helpful can be implemented, however, these will be the only methods tested.

Design:
When your main method is called, your program should display **nothing**. All interaction with the program should be done through reading and writing files. Given the example files below:
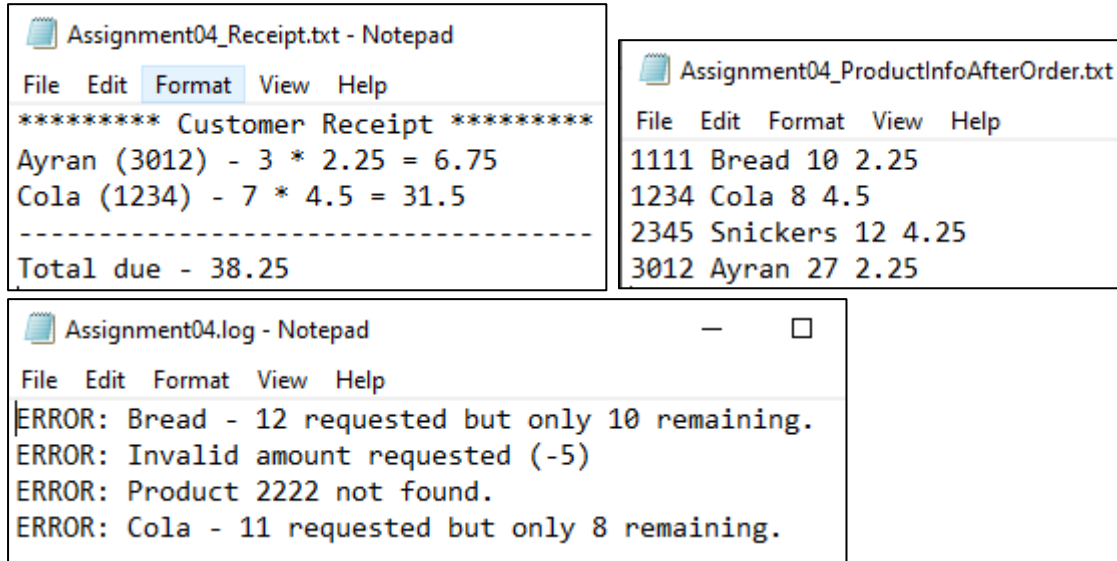
Code: Prior to running your program, only the following example files could be used as input to the program:

Assignment04_ProductInfo.txt

File Edit Format View Help

```
1111 Bread 10 2.25
1234 Cola 15 4.5
2345 Snickers 12 4.25
3012 Ayran 30 2.25
```

Ln 5, Col 1   100%

Assignment04_Order.txt

File Edit Format View

```
3012 3
1234 7
1111 12
2345 -5
2222 2
1234 11
```

If we run the program using the following command:

```
java StoreUsingFiles_123456789 Assignment04
```

After running, the following files will be created:

```
Assignment04_Receipt.txt - Notepad
File  Edit  Format  View  Help
********* Customer Receipt *********
Ayran (3012) - 3 * 2.25 = 6.75
Cola (1234) - 7 * 4.5 = 31.5
----------------------------------
Total due - 38.25
```

```
Assignment04_ProductInfoAfterOrder.txt
File  Edit  Format  View  Help
1111 Bread 10 2.25
1234 Cola 8 4.5
2345 Snickers 12 4.25
3012 Ayran 27 2.25
```

```
Assignment04.log - Notepad                    —    □
File  Edit  Format  View  Help
ERROR: Bread - 12 requested but only 10 remaining.
ERROR: Invalid amount requested (-5)
ERROR: Product 2222 not found.
ERROR: Cola - 11 requested but only 8 remaining.
```

Note: The original files will not be altered.

Test: You are responsible for testing your program. It is important to not rely solely on the examples presented in this Project description.

Grading:
MS Teams Submission: If anything is ambiguous, it is your responsibility to ask questions. It is also your responsibility to complete this assignment in a timely manner. E-mails with questions regarding this assignment will likely not be answered if received after 17:00 on the due date of the assignment. You can submit multiple times using MS Teams, however, we will only grade the last version that you submitted.

Filename: You must name your java file according to the description above. If your file is not named in this way, your submission for this assignment will not be accepted.