

CNT 4714 – Programming Assignment #1 – Fall 2016

Title: “Program Assignment 1: Event-Driven Programming”

Points: 100 points

Due Date: **Sunday September 4, 2016 by 11:59 pm (WebCourses time)**

Objectives: To practice event-driven programming using Java-based GUIs. To refresh your basic Java skills.

Description: Develop a Java program that creates a standalone GUI application (not an applet) that simulates an e-store which allows the user to add items (books) to a shopping cart and once all items are included, total all costs (including tax), produces an invoice, and appends a transaction log file.

Your program development must include the following steps:

1. Create a main GUI containing the following components:
 - a. An area that allows the user to input data into the application along with the descriptive text that describes each input area.
 - b. A total of six buttons as shown below with functionality as described below.
 - c. As illustrated below, the various buttons on the interface are only accessible at certain points during a user’s interaction with the e-store.
2. An input file named “`inventory.txt`”. This is a comma separated file which contains the data that will be read by the application when the user makes a selection. A sample file is provided for you on WebCourses.
3. An output file (append only) named “`transactions.txt`” must be created that uniquely logs each user transaction with the e-store. The unique transaction id will be generated as a permutation of the date/time string.

Restrictions:

Your source file shall begin with comments containing the following information:

```
/* Name: <your name goes here>
   Course: CNT 4714 – Fall 2016
   Assignment title: Program 1 – Event-driven Programming
   Date: Sunday September 4, 2016
*/
```

Input Specification: The file “`inventory.txt`” as described above (see example below as well).

Output Specification: Output is to appear in the specified components of the GUI and various message boxes that appear, plus the contents of the “`transactions.txt`” log file that will be generated.

Deliverables:

- (1) Submit a working copy of your source code (all .java files) via WebCourses no later than 11:59pm Sunday September 4, 2016.

- (2) Include a file that contains screen shots, similar to those illustrated below, that shows your application in action as a user interacts with your e-store to purchase books.
- (3) Include a screen shot of your "transactions.txt" file showing at least the last few transactions.

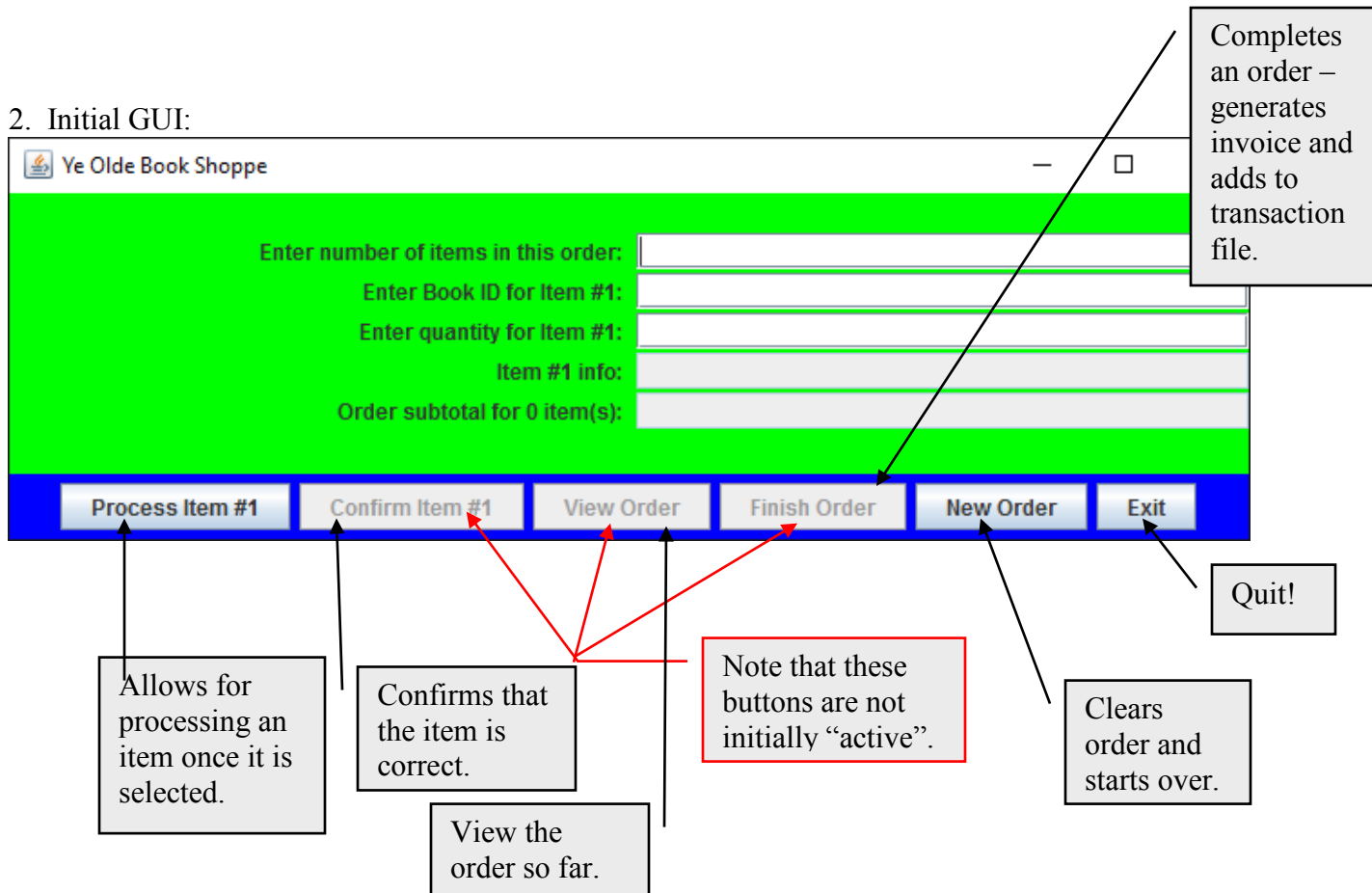
Additional Information:

Shown below are example screen shots of the GUI to help illustrate how your application is to operate.

1. Screen shot of the contents of an example "inventory.txt" file.

```
1 11111, "Top Secret Twenty One - Janet Evanovich", 8.99
2 22222, "W Is For Wasted - Sue Grafton", 9.95
3 33333, "Gray Mountain - John Grisham", 14.95
4 44444, "Revival - Stephen King", 12.95
5 55555, "Everyday Italian - Giada de Laurentiis", 18.99
6 66666, "Refusal - Felix Francis", 7.99
7 77777, "Dust - Patricia Cornwell", 12.99
8 88888, "Terminal City - Linda Fairstein", 10.95
9 99999, "Rogue Lawyer - John Grisham", 15.95
10 11112, "The Guilty - David Baldacci", 14.95
11 11234, "Tricky Twenty-Two - Janet Evanovich", 12.95
12 23456, "14th Deadly Sin - James Patterson", 14.95
```

2. Initial GUI:



The initial GUI of 'Ye Olde Book Shoppe' features a green background with white text and a blue button bar at the bottom. The text prompts the user to enter the number of items, Book ID, quantity, and item info, and displays the order subtotal. The button bar includes 'Process Item #1', 'Confirm Item #1', 'View Order', 'Finish Order', 'New Order', and 'Exit'. A 'Quit!' button is also present. Annotations explain the functions of these buttons and the 'Finish Order' button's role in completing the order and generating an invoice.

Ye Olde Book Shoppe

Enter number of items in this order:

Enter Book ID for Item #1:

Enter quantity for Item #1:

Item #1 info:

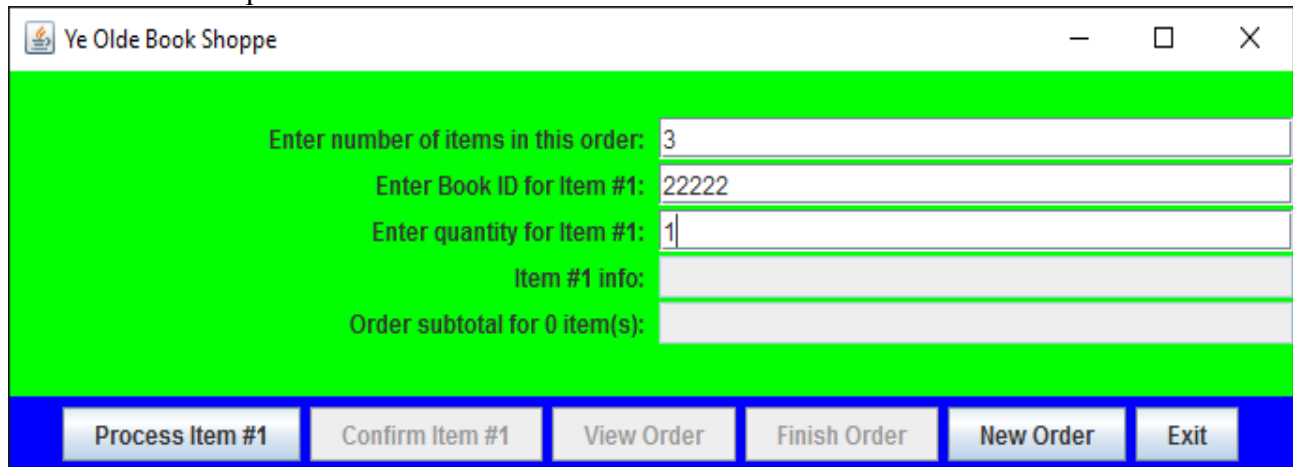
Order subtotal for 0 item(s):

Buttons: Process Item #1, Confirm Item #1, View Order, Finish Order, New Order, Exit

Annotations:

- Allows for processing an item once it is selected.
- Confirms that the item is correct.
- View the order so far.
- Note that these buttons are not initially "active".
- Clears order and starts over.
- Quit!
- Completes an order – generates invoice and adds to transaction file.

3. GUI after user specifies total number of items in the order and makes a selection for item #1.



The GUI after user input shows the 'Enter number of items in this order' field filled with '3', 'Enter Book ID for Item #1' with '22222', and 'Enter quantity for Item #1' with '1'. The 'Order subtotal for 0 item(s)' field remains empty. The buttons are the same as in the initial GUI.

Ye Olde Book Shoppe

Enter number of items in this order: 3

Enter Book ID for Item #1: 22222

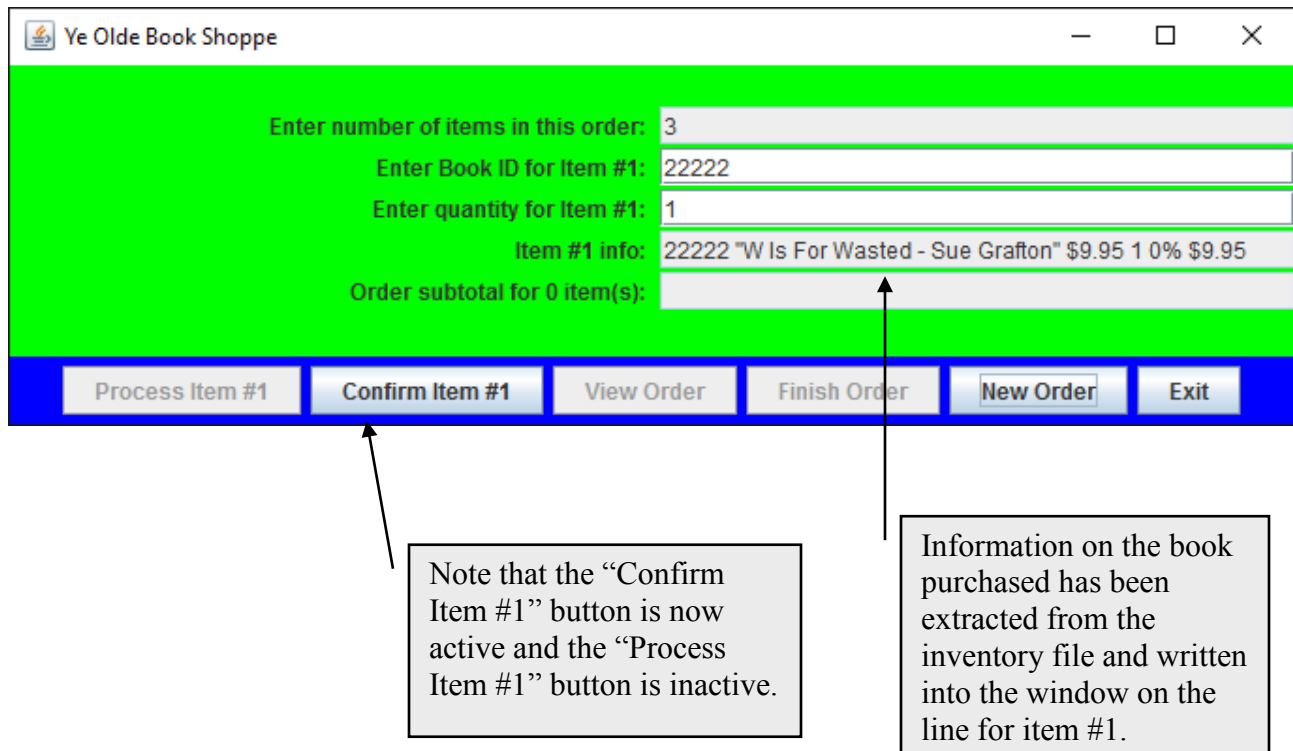
Enter quantity for Item #1: 1

Item #1 info:

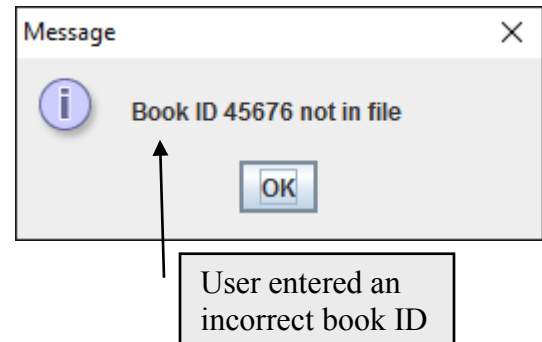
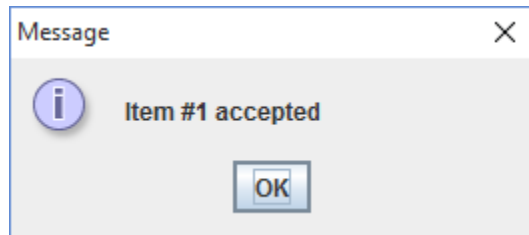
Order subtotal for 0 item(s):

Buttons: Process Item #1, Confirm Item #1, View Order, Finish Order, New Order, Exit

4. GUI after user has selected the first item and clicked the “Process Item #1” button.



5. When the user clicks on the “Confirm Item #1” button, a confirmation information message appears on the screen.



6. The main GUI after the user has confirmed the first item.

Ye Olde Book Shoppe

Enter number of items in this order: 3

Enter Book ID for Item #2:

Enter quantity for Item #2:

Item #1 info: 22222 "W Is For Wasted - Sue Grafton" \$9.95 1 0% \$9.95

Order subtotal for 1 item(s): \$9.95

Buttons: Process Item #2, Confirm Item #2, View Order, Finish Order, New Order, Exit

Discount is
 1-4 = 0%
 5-9 = 10%
 10-14 = 15%
 >=15 = 20%

Note that the button changes number.

Note that the text areas for entering the second item information are cleared and ready for input.

Subtotal should reflect current total of all confirmed items.

Information for previous item remains on display.

7. User enters next item in the order.

Ye Olde Book Shoppe

Enter number of items in this order: 3

Enter Book ID for Item #2: 99999

Enter quantity for Item #2: 2

Item #2 info: 99999 "Rogue Lawyer - John Grisham" \$15.95 2 0% \$31.90

Order subtotal for 1 item(s): \$9.95

Buttons: Process Item #2, Confirm Item #2, View Order, Finish Order, New Order, Exit

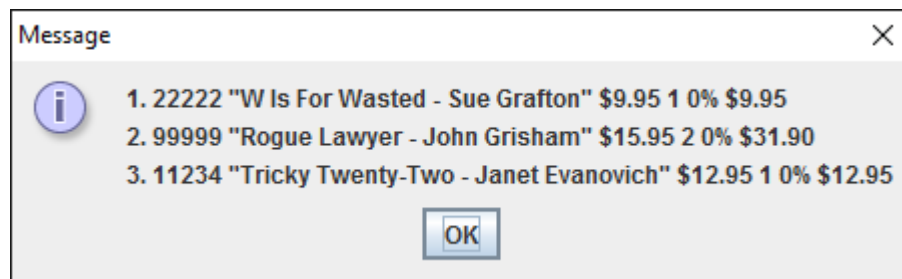
8. The GUI after the user has entered the information for all the items and confirmed the last item.

The screenshot shows a window titled "Ye Olde Book Shoppe" with a green background. It displays the following information:

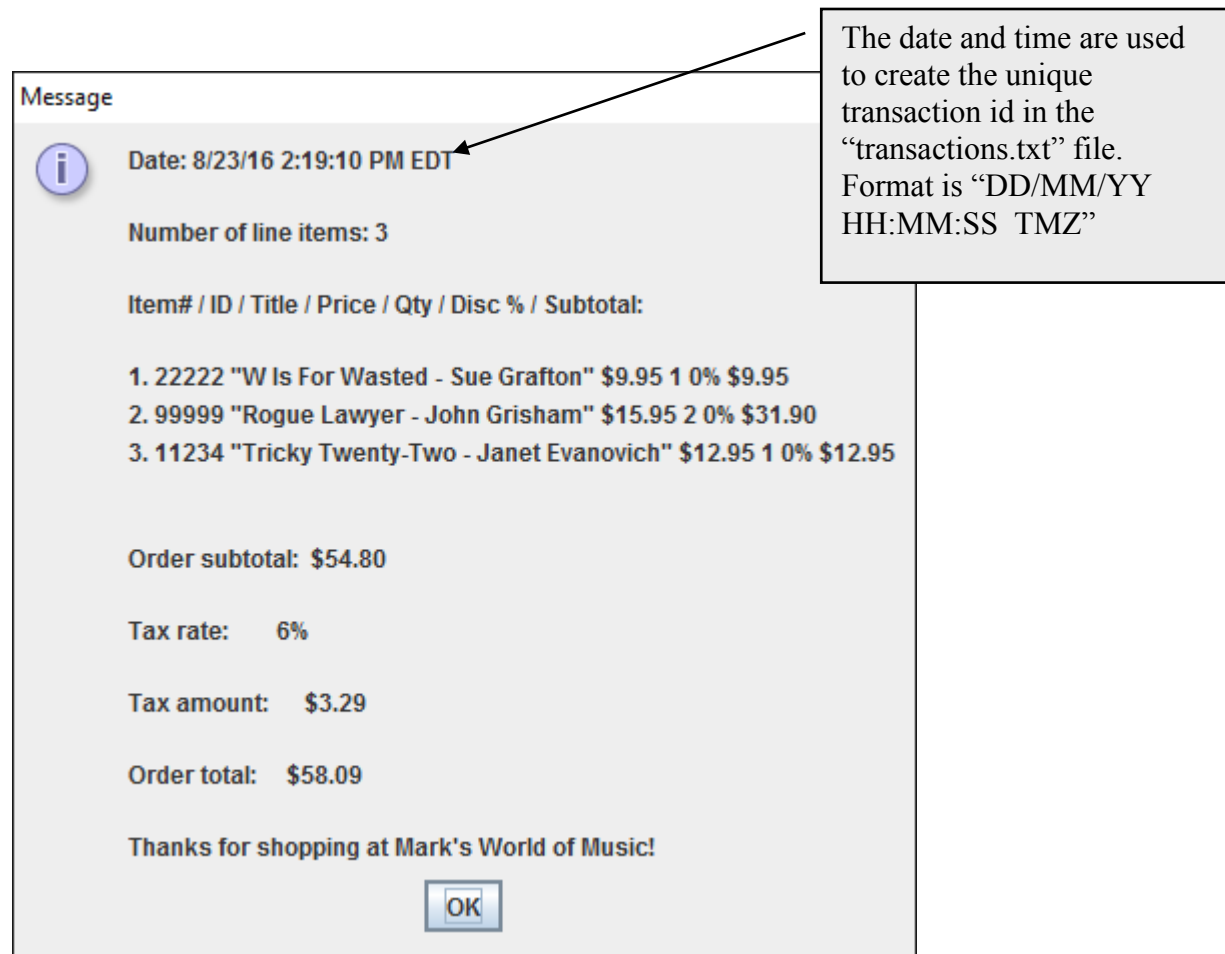
- Number of items in this order:** 3
- Item #3 info:** 11234 "Tricky Twenty-Two - Janet Evanovich" \$12.95 1 0% \$12.95
- Order subtotal for 3 item(s):** \$54.80

At the bottom, there is a blue bar containing six buttons: "Process Item", "Confirm Item", "View Order", "Finish Order", "New Order", and "Exit".

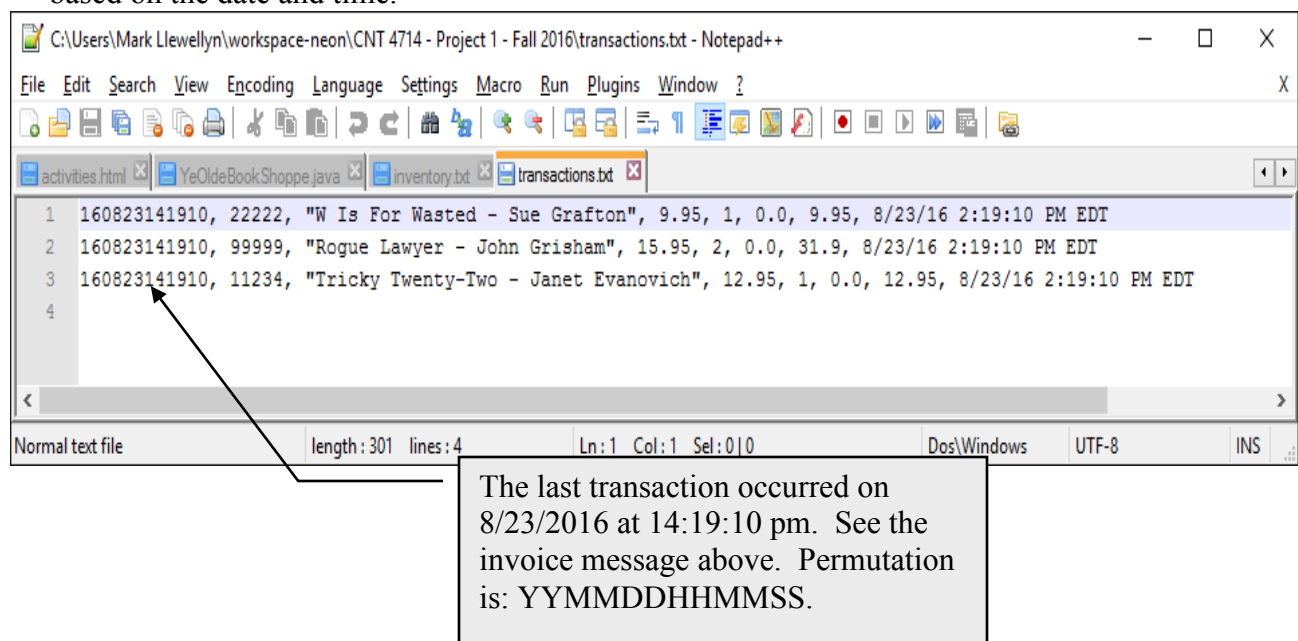
9. When the user clicks the "View Order" button, the following message box should appear.



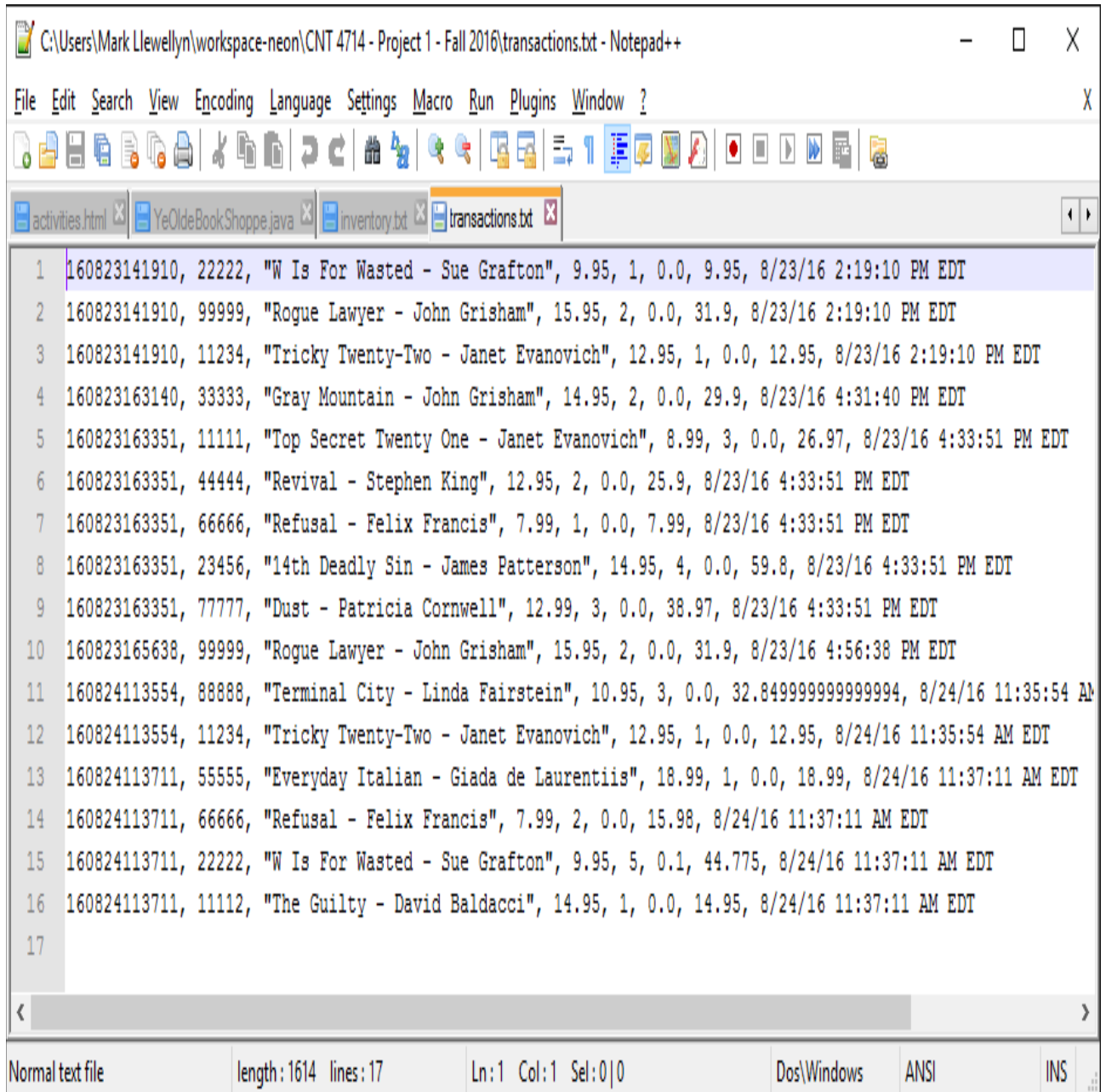
10. When the user clicks the “Finish Order” button, the invoice message should be generated and displayed.



11. The transaction file after order shown above was finished. Note the unique transaction ids based on the date and time.



12. The transaction file after several orders have been completed. Note the unique transaction ids based on the date and time for every separate transaction.



```
1 160823141910, 22222, "W Is For Wasted - Sue Grafton", 9.95, 1, 0.0, 9.95, 8/23/16 2:19:10 PM EDT
2 160823141910, 99999, "Rogue Lawyer - John Grisham", 15.95, 2, 0.0, 31.9, 8/23/16 2:19:10 PM EDT
3 160823141910, 11234, "Tricky Twenty-Two - Janet Evanovich", 12.95, 1, 0.0, 12.95, 8/23/16 2:19:10 PM EDT
4 160823163140, 33333, "Gray Mountain - John Grisham", 14.95, 2, 0.0, 29.9, 8/23/16 4:31:40 PM EDT
5 160823163351, 11111, "Top Secret Twenty One - Janet Evanovich", 8.99, 3, 0.0, 26.97, 8/23/16 4:33:51 PM EDT
6 160823163351, 44444, "Revival - Stephen King", 12.95, 2, 0.0, 25.9, 8/23/16 4:33:51 PM EDT
7 160823163351, 66666, "Refusal - Felix Francis", 7.99, 1, 0.0, 7.99, 8/23/16 4:33:51 PM EDT
8 160823163351, 23456, "14th Deadly Sin - James Patterson", 14.95, 4, 0.0, 59.8, 8/23/16 4:33:51 PM EDT
9 160823163351, 77777, "Dust - Patricia Cornwell", 12.99, 3, 0.0, 38.97, 8/23/16 4:33:51 PM EDT
10 160823165638, 99999, "Rogue Lawyer - John Grisham", 15.95, 2, 0.0, 31.9, 8/23/16 4:56:38 PM EDT
11 160824113554, 88888, "Terminal City - Linda Fairstein", 10.95, 3, 0.0, 32.849999999999994, 8/24/16 11:35:54 AM EDT
12 160824113554, 11234, "Tricky Twenty-Two - Janet Evanovich", 12.95, 1, 0.0, 12.95, 8/24/16 11:35:54 AM EDT
13 160824113711, 55555, "Everyday Italian - Giada de Laurentiis", 18.99, 1, 0.0, 18.99, 8/24/16 11:37:11 AM EDT
14 160824113711, 66666, "Refusal - Felix Francis", 7.99, 2, 0.0, 15.98, 8/24/16 11:37:11 AM EDT
15 160824113711, 22222, "W Is For Wasted - Sue Grafton", 9.95, 5, 0.1, 44.775, 8/24/16 11:37:11 AM EDT
16 160824113711, 11112, "The Guilty - David Baldacci", 14.95, 1, 0.0, 14.95, 8/24/16 11:37:11 AM EDT
17
```

Normal text file length: 1614 lines: 17 Ln: 1 Col: 1 Sel: 0|0 Dos\Windows ANSI INS