

CNT 4714 – Programming Assignment #1 – Fall 2015

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

Points: 100 points

Due Date: **Sunday September 13 by 11:59 pm (WebCourses time)**

Objectives: To practice event-driven programming using Java-based GUIs. To refresh your 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 file contains the data that will be read by the application when the user makes a selection. A sample file is provided for you on the course website.
3. An output file 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 2015  
   Assignment title: Program 1 – Event-driven Programming  
   Date: Sunday September 13, 2015  
*/
```

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 via WebCourses no later than 11:59pm Sunday September 13, 2015 .

- (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 "inventory.txt".

A screenshot of a text editor window titled "C:\Courses\CNT 4714 - Enterprise Computing\CNT 4714 - Fall 2015\Pro...". The editor displays the contents of "inventory.txt" with the following text:

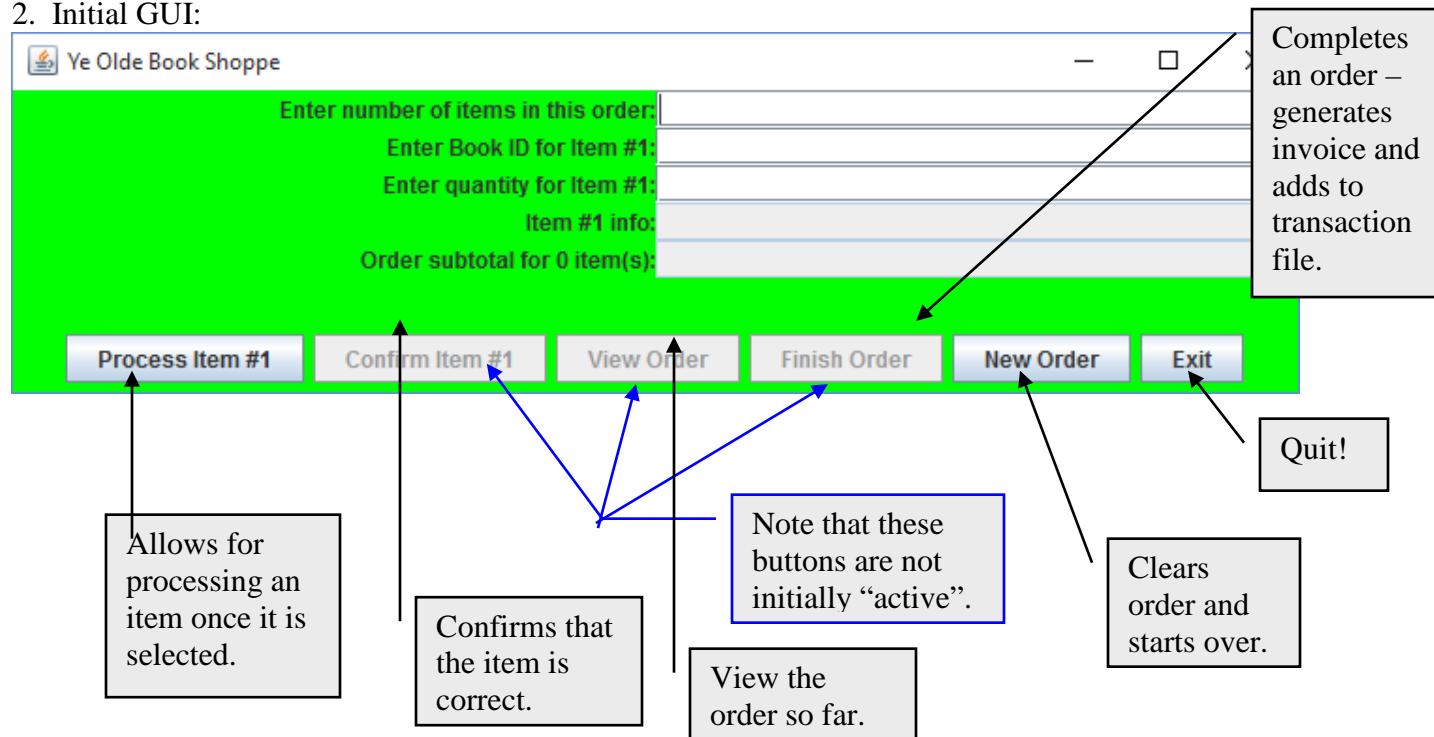
```

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

```

The status bar at the bottom indicates "Ln: 1 Col: 1 Sel: 0|0", "Dos\Windows", "UTF-8 w/o BOM", and "INS".

2. Initial GUI:



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

The screenshot shows a window titled "Ye Olde Book Shoppe" with a green background. It contains several input fields and buttons. The input fields are: "Enter number of items in this order:" with the value "4", "Enter Book ID for Item #1:" with the value "88888", "Enter quantity for Item #1:" with the value "1", "Item #1 info:" (empty), and "Order subtotal for 0 item(s):" (empty). The buttons at the bottom are "Process Item #1", "Confirm Item #1", "View Order", "Finish Order", "New Order", and "Exit".

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

The screenshot shows the same window as before, but with the "Confirm Item #1" button now active (highlighted in blue) and the "Process Item #1" button inactive (grayed out). The "Item #1 info:" field now displays "88888 'Terminal City - Linda Fairstein' \$10.95 1 0% \$10.95".

Note that the “Confirm Item #1” button is now active and the “Process Item #1” button is inactive.

Information on the book purchased has been extracted from the inventory file and written into the window on the line for item #1.

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

A message dialog box titled "Message" with a close button (X). It contains an information icon (i) and the text "Item #1 accepted". There is an "OK" button at the bottom.

A message dialog box titled "Message" with a close button (X). It contains an information icon (i) and the text "Book ID 99999 not in file". There is an "OK" button at the bottom.

User entered an incorrect book ID

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

Ye Olde Book Shoppe

Enter number of items in this order: 4

Enter Book ID for Item #2:

Enter quantity for Item #2:

Item #1 info: 88888 "Terminal City - Linda Fairstein" \$10.95 1 0% \$10.95

Order subtotal for 1 item(s): \$10.95

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

Ye Olde Book Shoppe

Number of items in this order: 4

Item #4 info: 33333 "Gray Mountain - John Grisham" \$14.95 1 0% \$14.95

Order subtotal for 4 item(s): \$62.87

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

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

Message

1. 88888 "Terminal City - Linda Fairstein" \$10.95 1 0% \$10.95

2. 11111 "Top Secret Twenty One - Janet Evanovich" \$8.99 2 0% \$17.98


3. 55555 "Everyday Italian - Giada de Laurentiis" \$18.99 1 0% \$18.99

4. 33333 "Gray Mountain - John Grisham" \$14.95 1 0% \$14.95

OK

9. When the user clicks the "Finish Order" button, the invoice message should be generated and displayed.

Message

 **Date:** 8/25/15 4:30:40 PM EDT

Number of line items: 4

Item# / ID / Title / Price / Qty / Disc % / Subtotal:

1. 88888 "Terminal City - Linda Fairstein" \$10.95 1 0% \$10.95

2. 11111 "Top Secret Twenty One - Janet Evanovich" \$8.99 2 0% \$17.98

3. 55555 "Everyday Italian - Giada de Laurentiis" \$18.99 1 0% \$18.99

4. 33333 "Gray Mountain - John Grisham" \$14.95 1 0% \$14.95


Order subtotal: \$62.87

Tax rate: 6%

Tax amount: \$3.77

Order total: \$66.64

Thanks for shopping at Mark's Ye Olde Book Shoppe!



The date and time are used to create the unique transaction id in the "transactions.txt" file. Format is "DD/MM/YY HH:MM:SS TMZ"

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

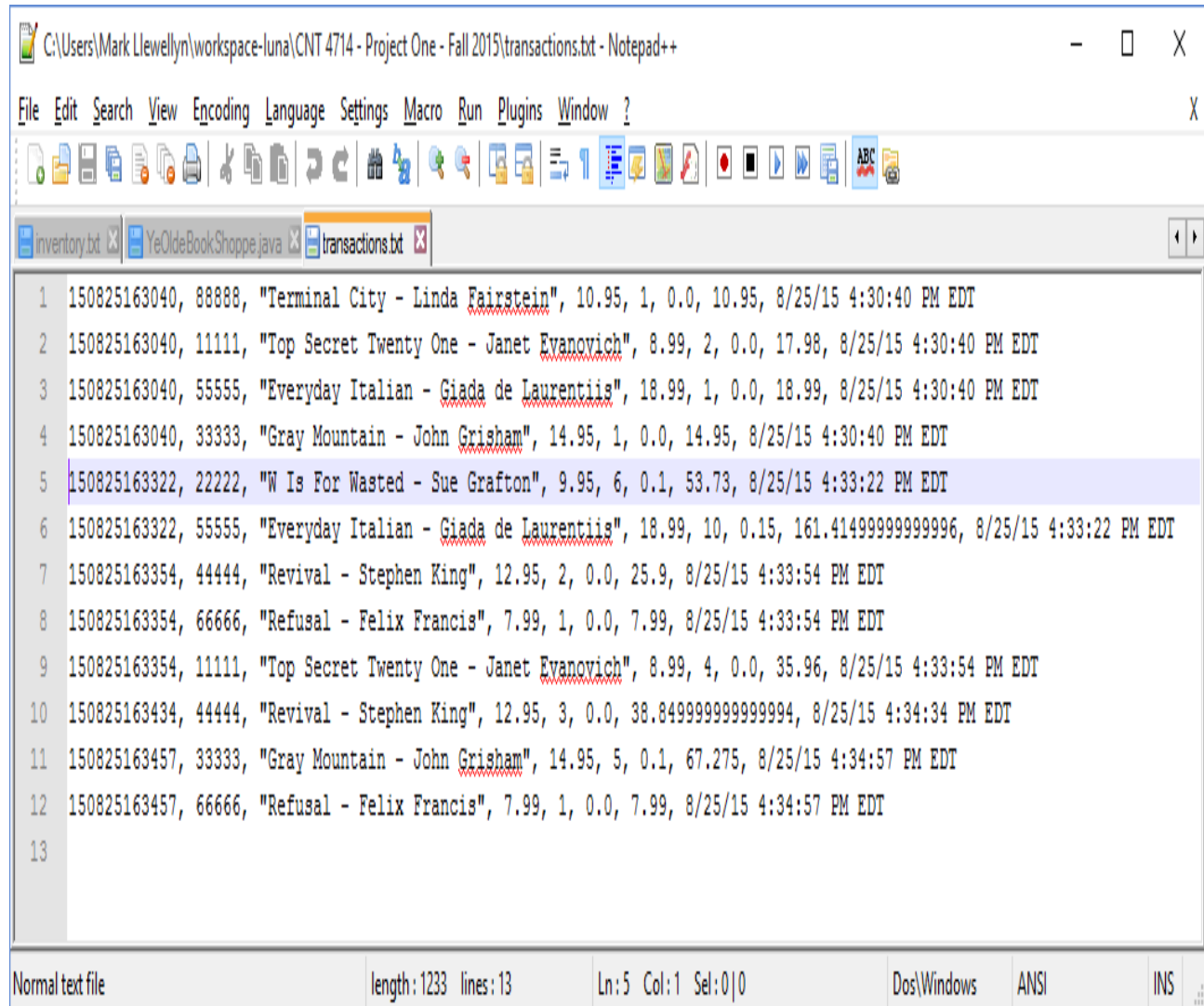
```

C:\Users\Mark Llewellyn\workspace-luna\CNT 4714 - Project One - Fall 2015\transactions.txt - Notepad++
File Edit Search View Encoding Language Settings Macro Run Plugins Window ?
inventory.txt YeOldeBookShope.java transactions.txt
1 150825163040, 88888, "Terminal City - Linda Fairstein", 10.95, 1, 0.0, 10.95, 8/25/15 4:30:40 PM EDT
2 150825163040, 11111, "Top Secret Twenty One - Janet Evanovich", 8.99, 2, 0.0, 17.98, 8/25/15 4:30:40 PM EDT
3 150825163040, 55555, "Everyday Italian - Giada de Laurentiis", 18.99, 1, 0.0, 18.99, 8/25/15 4:30:40 PM EDT
4 150825163040, 33333, "Gray Mountain - John Grisham", 14.95, 1, 0.0, 14.95, 8/25/15 4:30:40 PM EDT
5
Normal text file length: 419 lines: 5 Ln: 5 Col: 1 Sel: 0|0 Dos\Windows UTF-8 w/o BOM INS

```

The last transaction occurred on 8/25/2015 at 16:30:40 pm. See the invoice message above. Permutation is: YYMMDDHHMMSS.

11. 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 150825163040, 88888, "Terminal City - Linda Fairstein", 10.95, 1, 0.0, 10.95, 8/25/15 4:30:40 PM EDT
2 150825163040, 11111, "Top Secret Twenty One - Janet Evanovich", 8.99, 2, 0.0, 17.98, 8/25/15 4:30:40 PM EDT
3 150825163040, 55555, "Everyday Italian - Giada de Laurentiis", 18.99, 1, 0.0, 18.99, 8/25/15 4:30:40 PM EDT
4 150825163040, 33333, "Gray Mountain - John Grisham", 14.95, 1, 0.0, 14.95, 8/25/15 4:30:40 PM EDT
5 150825163322, 22222, "W Is For Wasted - Sue Grafton", 9.95, 6, 0.1, 53.73, 8/25/15 4:33:22 PM EDT
6 150825163322, 55555, "Everyday Italian - Giada de Laurentiis", 18.99, 10, 0.15, 161.41499999999996, 8/25/15 4:33:22 PM EDT
7 150825163354, 44444, "Revival - Stephen King", 12.95, 2, 0.0, 25.9, 8/25/15 4:33:54 PM EDT
8 150825163354, 66666, "Refusal - Felix Francis", 7.99, 1, 0.0, 7.99, 8/25/15 4:33:54 PM EDT
9 150825163354, 11111, "Top Secret Twenty One - Janet Evanovich", 8.99, 4, 0.0, 35.96, 8/25/15 4:33:54 PM EDT
10 150825163434, 44444, "Revival - Stephen King", 12.95, 3, 0.0, 38.849999999999994, 8/25/15 4:34:34 PM EDT
11 150825163457, 33333, "Gray Mountain - John Grisham", 14.95, 5, 0.1, 67.275, 8/25/15 4:34:57 PM EDT
12 150825163457, 66666, "Refusal - Felix Francis", 7.99, 1, 0.0, 7.99, 8/25/15 4:34:57 PM EDT
13
```

Normal text file length: 1233 lines: 13 Ln: 5 Col: 1 Sel: 0|0 Dos\Windows ANSI INS