EXERCISE 2.

I. Modify the Line Item application

In this exercise, you can test and modify the Line Item application.

Test the application

1 . Start the NetBeans IDE and open the project named ex2_Lineitem. This project should be in this folder:

>   C:\yourName\java_netbeans\ex_starts

2. Open the file named LineitemApp.java. Then, review the code for this file.

3. Run this application and test it with valid product codes like "java" and valid quantities like 2, 10, and 1000 that make it easy to see whether or not the calculations are correct.

4. Run the application again and test it with an invalid quantity value like "two". This should cause the application to crash. Study the error message and determine which line of source code was running when the error occurred.

5. Run the application again and enter "x" when the application asks you whether you want to continue. What happens and why? Modify the application

6. Modify the if/else statement so it sets a description for the product. Then, modify the code that displays the data for the line item so it includes the description. When you're done, the application should look like this:

```
Welcome to the Line Item Calculator

Enter product code: java
Enter quantity:     2

LINE ITEM
Code:         java
Description: Java Programming
Price:        $57.50
Quantity:     2
Total:        $115.00

Continue? (y/n):
```

7. Modify the if/else statement so it includes another product code named "android". Make up a description and price that correspond with this code.

8. Modify the code that displays the data for the line item so that it doesn't declare the priceFormatted and totalFormatted variables. To do that, replace these variables with a call to the format method of the NumberFormat object named currency. This should cut two lines of code.

II.   Create the Area and Perimeter application

In this exercise, you can create a new application that calculates the area and perimeter of a rectangle. When you're done, a test run should look something like this:

```
Welcome to the Area and Perimeter Calculator

Enter length: 100
Enter width:   200
Area:          20,000.000
Perimeter:     600.000

Continue? (y/n): y

Enter length: 8.25
Enter width:   4.30
Area:          35.475
Perimeter:     25.100

Continue? (y/n): n

Bye!
```

1. Create a project named ex2_AreaAndPerimeter that contains a class named Main that contains the main method.

2. Write the code that displays the welcome and the exit message. Then, run the application to make sure this works.

3. Write the code that prompts the user for the length and width of a rectangle and converts these entries to double values.

4. Write the code that calculates and displays the area and perimeter. The formulas for calculating area and perimeter are:

area = width * length
perimeter = 2 * width + 2 * length

Run the application and test it with valid data. This application should perform one calculation and end.

5. Write the while loop that allows the user to perform multiple calculations. The end of this loop should ask the user if he or she wants to continue. Then, run this application and test it with valid data to make sure it works correctly.