

Programming Assignment 4: GUI

CPSC 131: Introduction to Computer Programming II (Fall 2015)

Due November 9, 2015

1 Description of the Program

Implement a graphical application that simulates a cash register. The GUI of this cash register should include the followings:

- A text label and a text field for the item price;
- One button used for calculating the item with tax included;
- One button used for calculating the item with no tax included;
- One button used for reset;
- One text area that lists all item prices, subtotals and totals.

Figure 1 shows the layout of text output area. Initially, The heading should be displayed before any button is clicked. There are three possible scenarios:

- If the user enters one item price, and click the button with tax, then the result area should display the item price, subtotal (price + tax) and total so far. The tax rate is set to 5%.
- If the user enter another item price, and click the button with no tax, then the result area should display the item price, subtotal (price only) and total so far.
- If the user click the button of “New Transaction”, then the result area will only display heading again, and the counter should be reset.

For the illustration purpose, I entered the same price (100) all eight times, with the buttons of tax and no tax clicked alternatively.

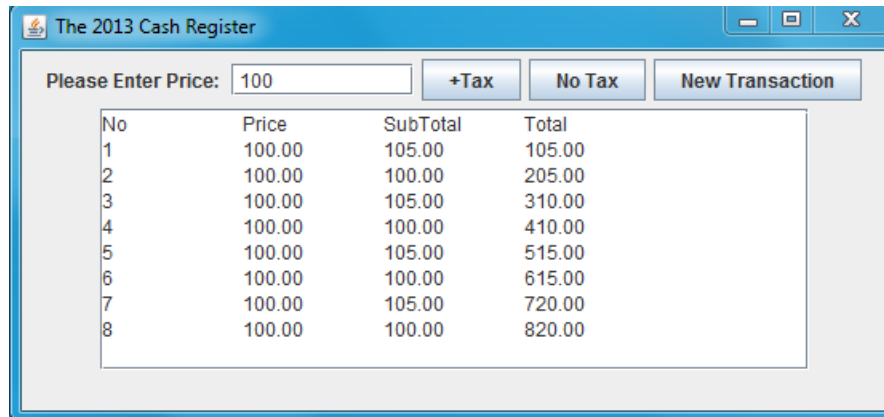


Figure 1: A screenshot of the CashRegister GUI.

2 Details of the program

You should have two Java files, one is `CashRegisterFrame` class that extends `JFrame` class, and the other is `CashRegisterViewer` class, which is to view your designed GUI.

In your `CashRegisterFrame`, you should have the followings:

- Basic instance variables such as buttons, label and text field (for price), result area in the GUI;
- Other instance variables such as total balance, counter;
- Frame sizes (reasonable big to fit all components on the top of the result area);
- Three `ActionListener` classes, with each implementing its method of `actionPerformed`.

3 Submission

1. Electronic submission (Due by Monday, November 9, 2015 11:59PM)

- Make sure that they run correctly in BlueJ;
- Zip up the whole folder `Program4_FirstNameLastName` (e.g., `Program4_DongshengChe`);
- Upload the zip file onto D2L Dropbox.

2. Hardcopy submission (Due by Tuesday, November 10, 2015 in class)

- Your hardcopy should include **source codes** and **output screenshots**.