Lab 06: GUIs and JUnit

Instructions: In this exercise you shall create a GUI application and setup JUnit to test a part of it. You shall design and implement an application that displays a button and a label. Every time the button is pushed, the label should display a random number between 1 and 100, inclusively.

Implement the following classes:

```
class PushRandomPanel{
/* You are to implement */
}

class PushRandom {
/* You are to implement */
}

class PushRandomPanelTester {
/* Generate this class from the PushRandomPanel class. */
}
```

Input:

→Button click

Output:

The label shall display a random number from 1 to 100 (inclusively). In the beginning the label shall be empty (no text).

Files:

PushRandomPanel.java – This is the JPanel with your GUI (button and label)

PushRandom.java – This class contains a main that creates a frame with PushRandomPanel and displays the panel.

PushRandomPanelTester.java – This class tests the functionality of the PushRandomPanel.java

Test cases:
This exercise already poses a problem with testing GUIs. Since the event is generated from Java's event system, it can sometimes be difficult to actually test the particular unit. For this exercise, since we are using Java's library of components (JFrame(Window), buttons (JButton), and labels (JLabel)) we do not have to test those components. Instead we need to test what we added, which was a function that randomly generated a number from 1-100 inclusively. For this exercise your JUnit shall create a PushRandomPanel (with contains JButton and JLabel) and then call the .doClick() on the JButton (which simulates a click) and test that the JLabel's value is correct (call

.getText() on the JLabel to get the text.) Hint: since JLabel is text you will need to first convert to an integer, I suggest using Integer.parseInt(String) function.

How to turn in:
Turn in via GitHub. Ensure the file(s) are in your lab06 directory and push via IntelliJ (VCS ↑) OR use the command line:

- $ git add <files>

- $ git commit

- $ git push

Due Date: September 29, 2015 2359

Teamwork: No teamwork, your work must be your own.