

Lab Assignment 09, Object-Oriented Programming, CSE 271, Spring 2020
Department of Computer Science and Engineering, Miami University

Graphical User Interface and Java Graphics

In this lab, you will practice designing graphical user interface and create drawings using Java graphics. We have **three problems** in this assignment. You have to create three classes for three problems.

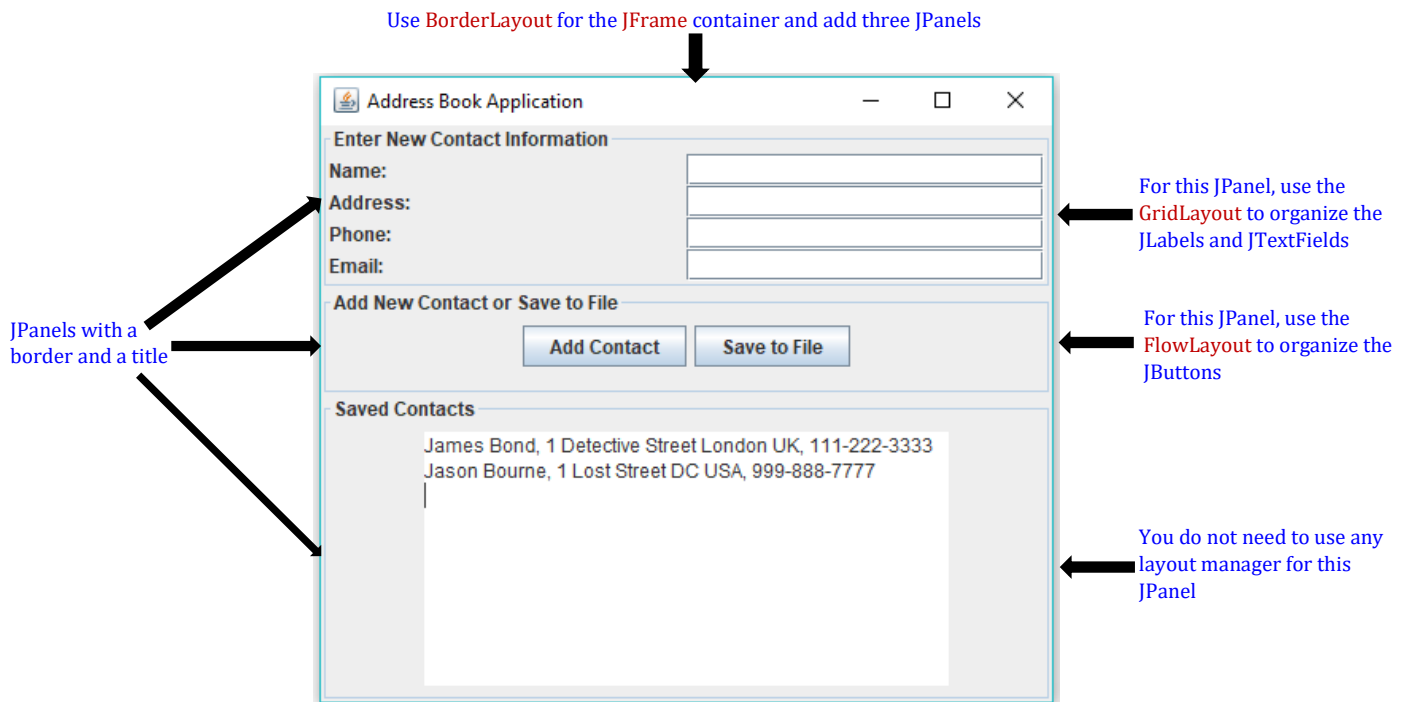
You **must watch** the following recorded lecture, posted last week, to complete this lab assignment:

https://miamioh.instructure.com/courses/117194/discussion_topics/841389

Problem 01 (35 Points):

We are going to redesign the graphical user interface we designed in the **last lab (Lab 08)**. Today, we are going to use Layout Managers and JPanels with title border. Use the following figure as a guideline to redesign GUI of the **AddressBook (Lab 08)**.

Note: For this problem, we are going to look at the design of the GUI, not the functionality (as you were graded on functionality part before).



Hint: You can use the `setBorder(TitledBorder titleBorder)` method for setting title of a JPanel object. TitledBorder is a java class that can be used to set title of a JPanel object. Here is an example:

```
panelObject.setBorder(new TitledBorder("Border Title"));
```

Problem 02 (20 Points):

Create a class called **ColorFrame** that extends **JFrame**. Create a "Colors" menu with three menu items: *Red*, *Green*, and *Blue*. The **ColorFrame** class also contains a **JPanel** object that changes to the appropriate color when the user selects a menu item.

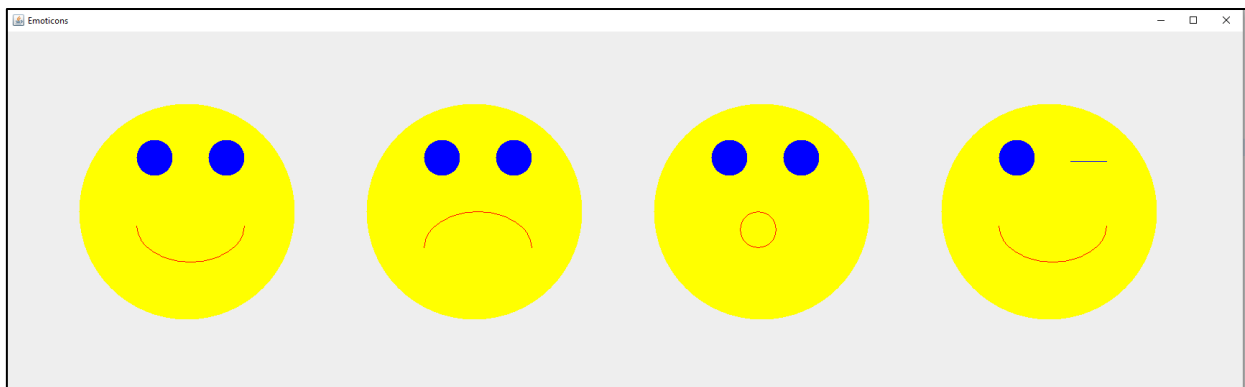
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Hint: You can use JPanel object to call setBackground(Color color) method to set the background color.

Problem 03 (45 Points):

Create a class named **Emoticon** and draw the following faces on the canvas (JComponent) side by side using the Java graphics. You can choose your own colors for these faces. The faces are, from left to right, smiley, sad, surprise, wink. You can use your own dimensions for the faces below. You will receive full credit if they are similar in appearance and do not need to be exact.

The sample canvas below is 1800 pixels in width and 600 pixels in height. Each face is an oval enclosed in a 300 x 300 pixels rectangle. Eyes are ovals enclosed in 50x50 pixels rectangles. Arcs are enclosed in 150x100 pixels rectangles. Each face is 400 pixels away from each other in distance.



Important Note:

Make sure the file name is correct and code is well commented. No late submission. You will get zero for late submission.

Submission:

Submit all java files to the appropriate submission folder on the Canvas by the due time.

Grading:

Total 100 Points