BIRZEIT UNIVERSITY
COMP231 – Advanced Programming

Assignment # 4

Objectives:

1. To create user interfaces **UI** using frames, panels, and simple GUI components.
2. To understand the role of **layout managers** and use the **FlowLayout**, **GridLayout**, and **BorderLayout** managers to lay out components in a container.
3. To get a taste of event-driven programming.
4. To define handler classes, register handler objects with the source object, and write the code to handle events.
5. To define handler classes using inner classes.
6. To define handler classes using anonymous inner classes.
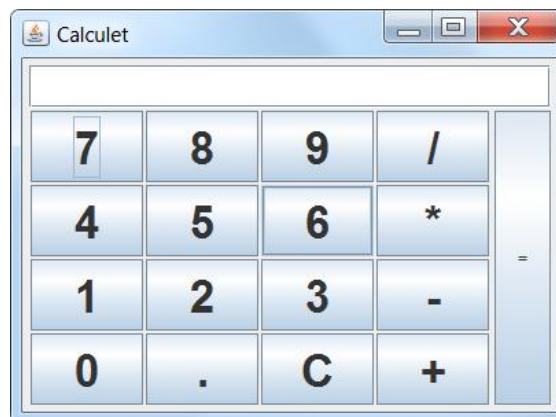
Specification

Submission: through Ritaj.
What to submit: A compressed file of your own **well-structured** and **well-commented** JAVA classes.
Due Date: <u>Thursday</u> 1/1/2015.

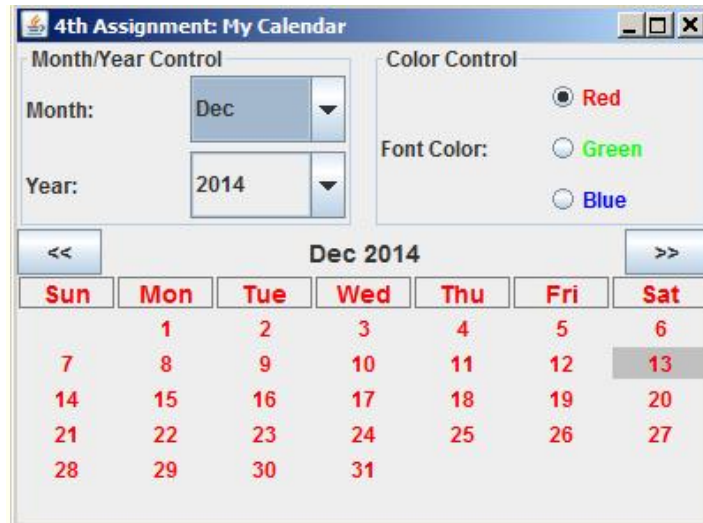## Tasks

Task 1: Calculator UI

Write the necessary JAVA code to create the following calculator interface (**ONLY** the interface).[1]

---

[1] **H.W. Bonus**: make the calculator function as expected with good exception handling.
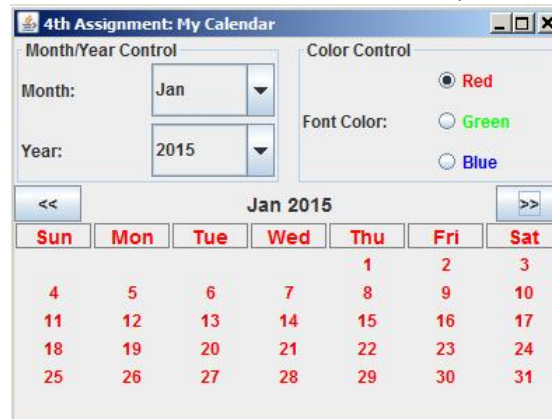
Task 2: My Interactive Calendar

Build an interactive functional calendar similar to the following one:
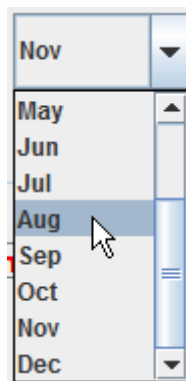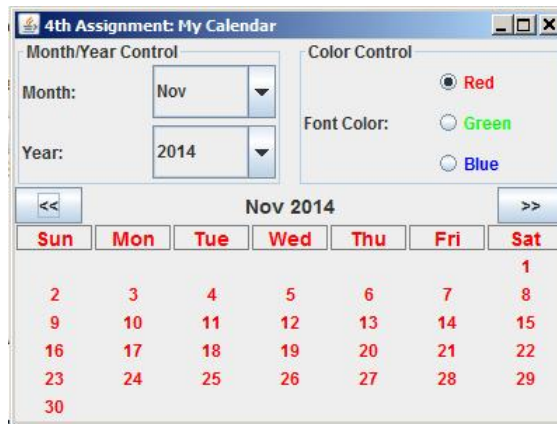

Notes:
- At first, the calendar will display the current month information and highlight the current date (e.g. in the previous figure the current month was Dec, 2014, and the current day when this image was taken was 13).
- The UI interaction works as follow:

   1. Click once on the ⟩⟩ button will move 1 month forward. (e.g. if the current month is Dec, 2014 after clicking the button it will move to Jan, 2015):
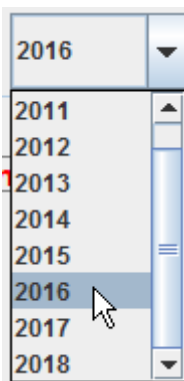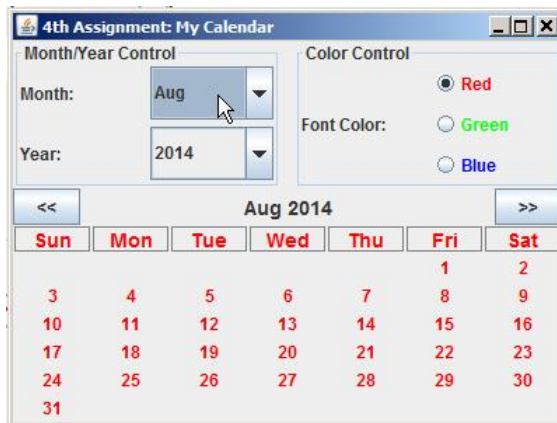

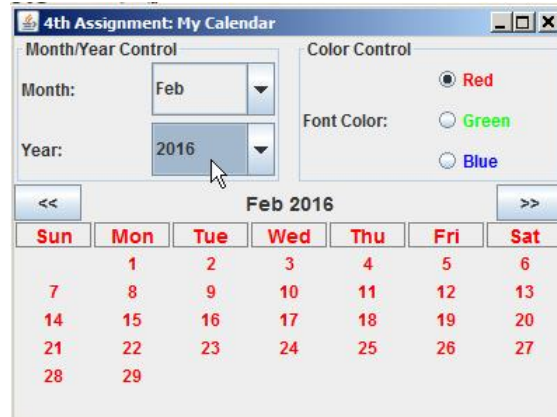   Click ⟩⟩ button again will move another month forward and so on.

   2. Click once on the ⟨⟨ button will move 1 month backward. (e.g. if the current month is Dec, 2014 after clicking the button it will move to Nov, 2014).
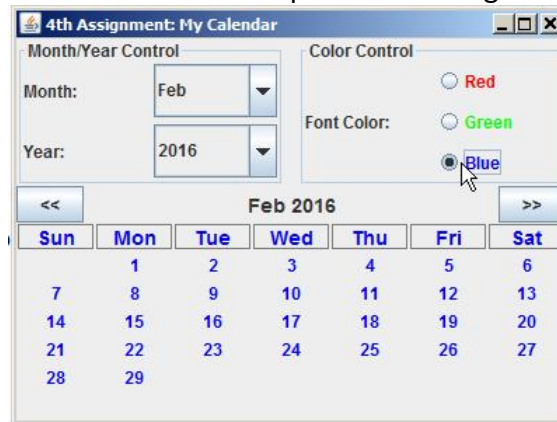
3. Select a new month from [combo-box image] combo-box will move to the selected month:
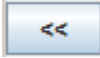

4. Select a new year from [combo-box image] combo-box will move to the selected year:

5. Select a new font-color from the color control panel will change the calendar's color:

6. The My-Calendar interface should be integrated, i.e. clicking the buttons and has to update the calendar and the combo-boxs in the month/year control panel accordingly.

Tip: you may use the java **GregorianCalendar**[2] class to handle calendar specific operations.

Good Luck!

---

[2] http://docs.oracle.com/javase/7/docs/api/java/util/GregorianCalendar.html