

Lab 5 (70 pts)

In this lab, you will work on creating GUIs in Java using Swing classes. You will learn to create and use

- A GUI Window using a JFrame
- An intermediary container using JPanel
- Textboxes and Labels for input
- Buttons to invoke an action

Ref: [How to use Frames \(Windows\)](#)

[How to use Panels](#)

[How to use JTextFields](#)

[How to use Labels](#)


Using Eclipse, create a project called lab5.

All the exercises in this lab should be included in a package called, **edu.scu.coen160.lab5**.



Copy the posted files into your working folder.

Exercise 1 (15 pts)

In this exercise, you will use the file, **Exercise1.java**. Compile and run the program.

- a) Where did the window appear on the screen? 

Now, make the following change to the program.

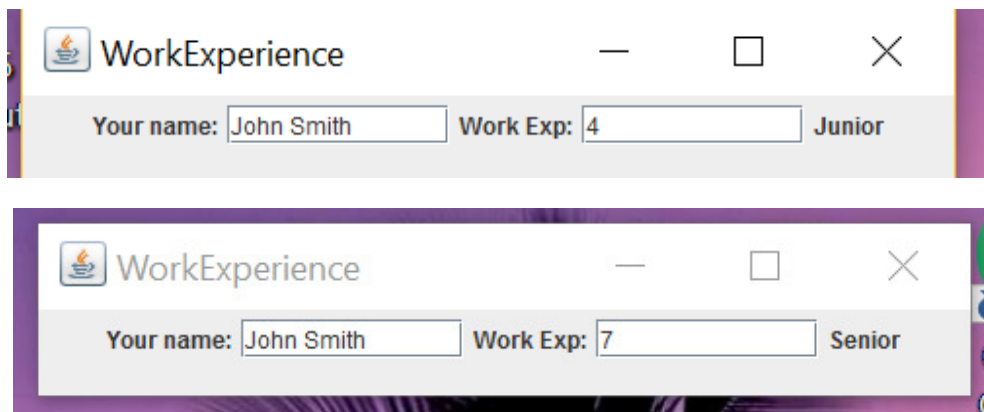
- b) Add the statement, `setLocationRelativeTo(null)` in the constructor of `TextFieldDemo` class. Compile and run the program. What did the statement do? 
- c) Enter your name in the field labeled, **Your Name** and hit “Enter” key. Did you see anything appear in the second field labeled “Name in Upper Case”? 

Follow the comments in the code and do the necessary modification. Refer to the links given above to check on the class API.

Exercise 2 (15 pts)

In this exercise, you will use the file, **Exercise2.java**. The purpose of this program is that when a user enters the name and work experience in years (a number) in the appropriate fields and hits “Enter”, the **levelLabel** should display with a Junior or Senior (See the images below). If the years entered are ≤ 5 , the level should be Junior, otherwise, it should be Senior.

Complete the method, `actionPerformed()` with the necessary code to achieve the purpose. Please note that the years entered will be in the `String` format and you have to convert the `String` into a number and check the rule given.



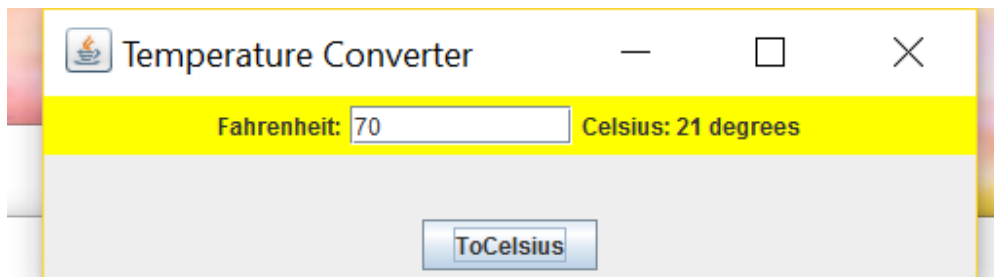
Compile and run the program. Test your program with various values (entered in the field labeled `Work Exp`). Test it with a value that cannot be converted into a number (For example, “abc”).

Exercise 3 (15 pts)

In this exercise, you will use the file, **Exercise3.java**. The class TempConverter, displays a temperature entered in Fahrenheit degrees into Celsius and displays them via a label. Examine the code and you will notice that there is an inner class called **Converter** which handles the button click and converts the temperature. The code given is incomplete and you should add the statements as follows:

- Write statements to add an instance of Converter class as a listener on convertButton.
- Complete the method, actionPerformed() in class Converter, using the comments given.

After you complete and run the code, the GUI should be similar to the shown below:



Exercise 4 (25 pts)

In this exercise, you will develop a program called **BMI Calculator**. The program should display a GUI, allow a user to input height (in ft and inches) and weight (in lbs), calculate the BMI and display it. A normal BMI is in the range of 18.5-24.9. A value outside this range should be displayed in RED.

In this exercise, you will need to use a JFrame, JPanel, text fields, labels and button(s). Please refer to the exercises 1-3 and use the approach and code where applicable.