ECET 16400 Lab 03 Spring 2018

The pre-lab assignment: tutorials 3-4, 4-1
Reading: Chapter 3, Chapter 4
Review: Tutorial 3-6

Lab 3:
Lab Objective: Build on knowledge acquired from pre-lab assignment.
You will use button, textbox controls and code to display output in label controls.
You will be graded on:

- User interface design: completeness, clarity, and ease of use. This would include labels telling the user what to do, buttons with descriptive text, easy to read, visually appealing.
- Source code: this would include code organization, no extra control methods in code, complete code comments, all objects used in code re-named.
- Project works as instructed
- Accept and cancel button assignments
- Proper Tab order
- Correct files submitted in Canvas assignments

Procedure:
Before you begin to program, Read all instructions carefully and be sure you understand what and why you are doing something. Have a clear picture as to how your completed program should look and perform.

For lab 3 you will program a solution for
Programming Problems #5. Celsius and Fahrenheit Temperature Converter, Page 196
Read Programming Problems 5. Celsius and Fahrenheit Temperature Converter, Page 196
Do not begin to program until you complete two design process tasks

Design process tasks:

1.) On a standard sheet of paper define your inputs, process and outputs then sketch your user interface. You may change the design provided in the book, but be sure to include all the inputs, outputs and button as described in the problem.
2.) On another standard sheet of paper create a "Control property settings table". Try to include all the controls you intend to put on your user interface, but know that you might have to update the information once you have completed your program.

These documents must be checked by the instructor before you begin to program. Once checked, reference these documents as you program your solution. When complete you will submit these two documents with your lab submission.

Programming your solution:

1. Start Visual Studio and **Name your project YourName_Lab03**
2. **Select a convenient location to save your project**
3. **Rename the Form1.cs file to temperatureConverter (accept all changes if prompted).**
4. **Change the text on the form to Temperature Converter**.
    a. Ensure your Form1's Text property updated and the Solution Explorer window displays the updated file names. If not….stop and ask for assistance.
5. **Build your program to ensure all files properly loaded**. (Build | Build Solution)

6. In the [Design] window create your user interface: be sure to properly re-name all objects (controls) placed on your user interface, and then write the necessary code.
    a. Use your design sheets as reference and create your user interface, then code your solution.
    b. Program in small chunks: Get one conversion button to work, before writing code for the second conversion button.
7. Be sure to include an Exit button on your form.
8. Test your program for accurate results. Once your program displays output as expected, you may add additional flare and design to the user interface. This could include a background picture on the form, color change, etc…... But don't overdo it. Your form design should be easy for the user to read and use.

Use the following sets of test data to determine if the application converts properly:

	Format output to two decimal places.	
User input to textbox	Convert to Fahrenheit button	Convert to Celsius button
32	89.60 F	0.00 C
100	212.00 F	37.78 C
78.3	172.94 F	25.72 C

When the user types in 78.3 in the textbox

clicks the "Convert to Fahrenheit" button, the output should display to a label formatted similar to: Temperature 78.3 C converted to degree Fahrenheit is: 172.94F

clicks the "Convert to Celsius" button, the output should display to a label formatted similar to: Temperature 78.3 F converted to degree Celsius is: 25.72 C

outputLabel.Text = "Temperature " + inputTemp + " converted to degree Fahrenheit is: " + result.ToString("n2") + "F";

9. You are to assign Accept and Cancel buttons assignments (page 179). And use proper tab order (pg 175-177).
10. Note: for each lab assignment you are required to comment your code and include a commented header. Refer to Lab 02
11. When you complete your project, if necessary, update your two design documents to match your completed project. Make note on these documents the changes you had to make.
12. Once the project is complete, have one of the instructors check it.
13. Then submit your project via the appropriate Canvas Assignments tool. You will **submit three files**: (the .exe executable file, the Visual C# .cs file and a zipped file of your entire project.) **and your two design documents**. If you have any problems locating these files ask for help during the lab session. To receive credit: You must demonstrate your working program to the lab instructor and have your two design documents checked by the instructor before you leave.
14. **Note the closing date and time; as late submissions will not be accepted, nor any files sent as messages in Canvas.**