ECET 16400 Lab 02 Spring 2018

Before you begin. Make sure you have read and understand all material presented in the Let's get started Module.

Lab 02 instructions:

**** Must complete Last week's assignments before doing Lab 02 assignment ****

Last week's assignments:

- You must have Visual Studio or 2017 installed on your computer.
- By completing the following, you will now learn how to open, edit and save a C# program in the .Net environment.
  - Chapter 1: Last week's lab assignment
    - Read all material and do all Tutorials in Text Book pages 27-42.
    - You must complete all Tutorials as instructed. Do not skip any!
    - IMPORTANT:
      These Tutorials lay the foundation for the next section of this class. You must know this material to be successful in the next section.
    - **Before you proceed** Make sure you can answer the following questions:
      - Checkpoint questions (1.44 - 1.50) on page 42.
      - Short Answer questions (12 - 16) on page 49.
  - Chapter 2:
    - Read Chapter 2
    - Read and practice Tutorials 2-1, 2-2, 2-3 and 2-4
      IMPORTANT:
    - These Tutorials introduce key programming techniques used throughout this class.
    - **Before you proceed** Make sure you can answer the following questions:
      - Checkpoint questions (2.1 - 2.14) on page 60.
      - Checkpoint questions (2.15 - 2.28) on page 75.
      - Checkpoint questions (2.29 - 2.37) on page 89.
      - Checkpoint questions (2.38 -2.44) on page 102.
      - Checkpoint questions (2.45 - 2.48) on page 104.
      - Checkpoint questions (2.49 - 2.52) on page 106.
      - Algorithm Workbench questions (1 - 5) on page 112.

This week's lab assignment:

Your Programming activities list

1. Read entire lab
2. Prepare 2 design sheets
3. Before programming: Must have design sheets checked off for in-class credit.
3. Design GUI (Graphical User Interface) or for shortness: UI (user interfact)
4. Write code
5. Test code

- **Lab 02 Program Description of tasks**:
  - Create a program based on the previous reading and chapter tutorials.
    - Start a new project. Name the project: yourLastname_Lab02
    - Rename the Form1.cs file to ButtonPractice.cs (accept all changes if prompted).
    - Change the text on the form to **Practice**.
    - Change the forms' back color property to Cyan.
      - **Build your program to ensure all files loaded correctly.**

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- From what you read in Chapters 1 and 2 you will create a program to practice writing code and displaying information to the user. Your form will have 7 Button controls, 2 Label controls, and 1 PictureBox control.

- **Part 1:** Your program Design:
  Read the following list of design tasks and then on your design sheets:
  - You are to come up with an appropriate UI (user interface):
    - This is where you should draw out your design on a sheet of paper and then identify each object (control) and its properties.
    - Once your design sheets are complete, have them checked by instructor or TA.
    - Then in the designer window place the objects on your form and set their appropriate properties as instructed and designed on your sheet.

  Design Tasks:
  - Button Controls:
    1. Name one button welcomeBtn. Change the text of the button to say Display Welcome Message. Change the font of the button to a bold 12pt. Perpetua.
    2. Name another button myNameBtn. Change the text of the button to say Display My Name. Change the font of the button to 12pt. Perpetua.
    3. Name another button dogNameBtn. Change the text of the button to say Display Dog Name. Change the font of the button to 12pt. Perpetua.
    4. Name another button clearTextBtn. Change the text of the button to say Clear. Change the font of the button to 12pt. Perpetua.
    5. Name another button showPictureBtn. Change the text of the button to say Show Picture. Change the font of the button to 12pt. Perpetua.
    6. Name another button hidePictureBtn. Change the text of the button to say Hide Picture. Change the font of the button to 12pt. Perpetua.
    7. Name the last button exitBtn. Change the text of the button to say Exit. Change the font of the button to 12pt. Perpetua.
  - Label controls
    1. Name one label dogLabel. Change the following properties: auto size to False, border style to FixedSingle, font to bold 12pt. Perpetua, text (empty), and text align to MiddleCenter.
    2. Name the other label outputLabel. Change the following properties: auto size to False, border style to FixedSingle, font to bold 12pt. Perpetua, text (empty), and text align to MiddleCenter.
  - PictureBox control
    1. Name the pictureBox myPicture. Image: Select and import a .bmp picture from the Chap02 folder of the Student Resources (also can be found in Images folder in Canvas | Resources Module). Change the following properties: border style to FixedSingle, size mode to AutoSize.

  - **Before you proceed:** Make sure all controls are properly re-named and all control properties assigned as instructed.
  - **Build your program to ensure all changes load correctly.**
  - You now should have completed two design sheets and your UI

- **Part 2:** Your program Code:
  - Now it is time for you to apply your programming skills. Using what you learned in your reading of chapters 1 and 2, the following should happen in your program.

When the executable runs, the user should be able to click on any button on the form and observe the execution of the code you, the programmer, wrote for that button event handler.

Write code such that:

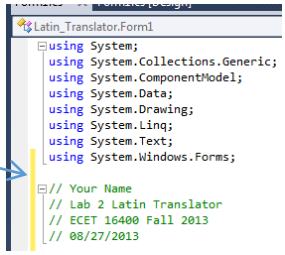
1. When the welcomeBtn button is clicked, the statement *Good Afternoon* will display in a message box.
2. When the myNameBtn is clicked, *your name* will display in the outputLabel control.
3. When the dogNameBtn button is clicked, the name Fido will display in the dogLabel control.
4. When the clearTextBtn button is clicked, the text in the outputLabel control is cleared and the text in the dogLabel control is cleared.
5. When the showPictureBtn button is clicked, the picture in myPicture control will change to visible.
6. When to hidePictureBtn button is clicked, the picture in myPicture control will change back to invisible.
7. When the exitBtn button is clicked, the program will close.

- **Part 3:** NOTE – COMMENT, COMMENT, COMMENT.
  - Comment everything you program in the event handlers. Your code should have comments so anyone that looks at your program knows what it is doing and why. It doesn't have to be a long drawn out explanation unless it's absolutely necessary. The more concise you can make the comment the better, unless you deem it necessary to the viewer of your code to know in extra detail why you did what you did.
  - Your code must also have a proper commented header: including your name and class information.

    Example Commented header:

    Note: for each lab assignment you are required to comment your code and include a commented header.

    a. Commented header: Use comment marks to make a commented header that contains your name, lab assignment, course number and date. Place your commented header just beneath the "using System.Windows.Forms;"



- **Part 4:** Final Touches
  - Apply Tab order and Accept Button and Cancel Button assignments:Turn to page 175 - 179 in text book. Read and apply proper Tab order and Accept Button and Cancel Button to your program operation.
  - Make sure your program code does not have any empty methods. Ask if you don't know how to fix/delete empty methods from your program code.
  - Ensure there are no empty methods (event handlers) in your code. If so, ask instructor or TA for assistance on how to remove an empty event handler methods.

- **Lab 02 Submission**:
  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 design document**. If you have any problems locating these files ask for help during the Lecture/Lab session.

Note the closing date and time; as late submissions will not be accepted, nor any files sent as messages or attachments in email.