Lab 11 (Due: Monday, April 27, 2015, 11 : 59 : 00pm)

CSCE 155N

1   Lab Objectives

- Use simple plot commands to generate GUI elements.

- Get and set some advanced properties using graphic handles.

- Generate M-files for reproducing figures

2   Prior to Laboratory

- Review the laboratory handout

- Read Chapter 13.3 in Attaway

3   Topics Covered in Lab

- Basic and Advanced GUI

  Most commonly used GUI elements

  Change properties of existing GUI elements

  Incorporate `get` and `set` in programs

4   Activities/Exercises

Before You Begin

- **Download files from** http://cse.unl.edu/~cse155nm/labs/11 **to your** `Z:\csce155nm` **directory**

4.1   GUI Weight Converter

- Modify `weightConverterGUI.m` to convert weight in kilograms to weight in pounds

- Your GUI should have:

  A pushbutton that says "Convert". Pushing the button causes the GUI to calculate the weight in kilograms and display that. That means that the user can converting the weights until the figure is closed.

  The GUI should display the default weight as 10 pounds

- The output should look similar to the following output.

  Note: The converted weight is a static text box
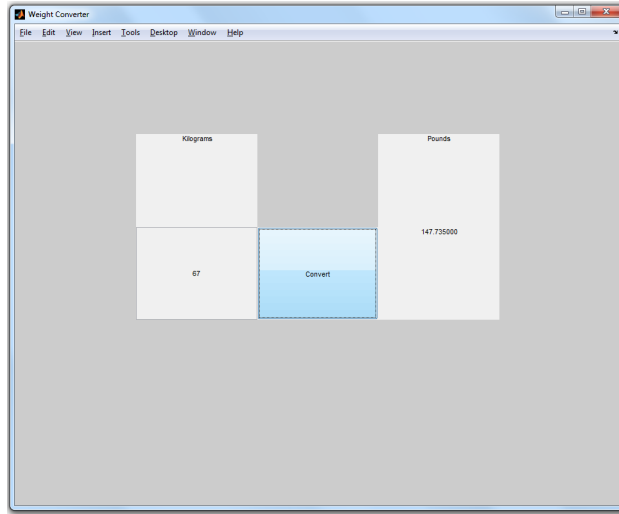
4.2   GUI Incrementer

- Modify `incrementerGUI.m` with 2 pushbuttons. One pushbutton "+1" is to increment a counter by 1 each time it is pushed

- The other pushbutton, "Reset", is used to reset the value of the counter to 0

- The output should look similar to the following output.

  Note: The counter is a static text box
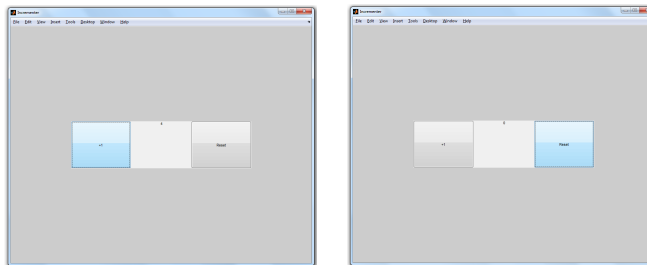

4.3   GUI Curve Plotter

- Modify `curvePlotterGUI.m` to explore the curve $\cos(x + A) + \sin(B \times x)$ as A varies from $[0, \pi]$ and B varies from $[-10, 10]$.

- The curve should be ploted in the **x-range** $[-10, 10]$. Your interface should include the following components

  A static text component that shows the current equation (with approximate values of A and B filled in)

An axes component that plots the curve

Two slider bars that allow the user to vary the value of A and B. The slider bars should be labeled with approximate static text components.

- An example program GUI is shown below
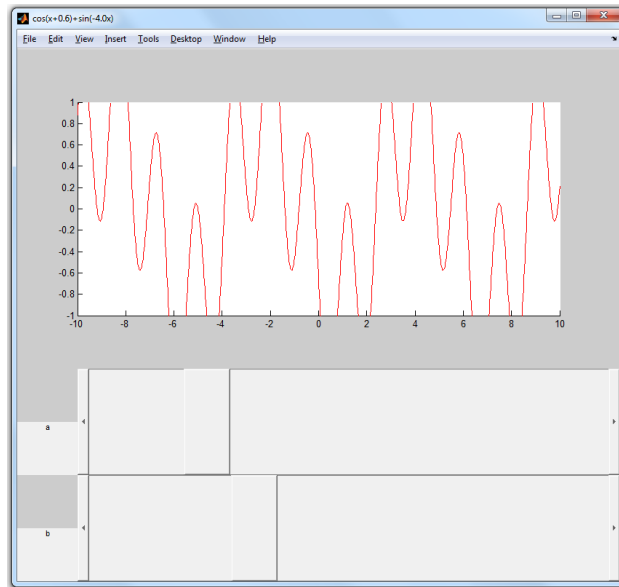
5   Code Documentation

Remember to document your files in the way that we did for the previous labs. It will come in handy when you look back at code after a long time, or when someone else is trying to understand what your code does.

6   What to Submit

You will be submitting five (5) files (`weightConverterGUI.m`, `incrementerGUI.m`, `curvePlotterGUI.m`, `contributions.txt`, and `members.txt`).

7   Additional Resources

Online MATLAB Documentation
CSE Webhandin
CSE webgrader

8 Point Allocation

Component	Points
`weightConverterGUI.m`	20
`incrementerGUI.m`	20
`curvePlotterGUI.m`	40
`members.txt`	5
`contributions.txt`	5
webgrader PDF	10
Total	100