

CS1115 Lab 1 (August 23, 2012)

Completing the lab is very important, but your work is not graded and it is not submitted. If you finish before the hour is over, then you can leave early or you can work on the "Finished Early" problems. If you do not finish the problems before the end of class, then be sure to ask enough questions so that you can complete the exercises in the next day or two on your own.

Running and Editing a MATLAB program

1. Go to the CS 1115 course website. (Google "Cornell CS 1115".) Visit the [syllabus](#) page.
2. Download the file `spiral.m` to the *Desktop* of your computer. (You can use another directory/path, but be sure to write down the location of your file.)
3. Open MATLAB and make sure that the *Current Directory* includes `spiral.m`. You should now see the file listed in the *Current Directory Pane*.
4. To run the program (script) `spiral`, in the *Command Window* type the file name without the extension `.m`. What do you see on the screen?
5. To read the program, open the program file in the *Editor Window*: select menu options *File*→*Open* and then select or type the file name `spiral.m`. (Or in the *Current Directory Pane* double click on the file name.)
6. Now experiment by making a selected change to the program. Use the editor and be sure to save the result before re-running from the command window. All this can be done without knowing *why* the program works. The idea is just to get familiar with the act of editing and running a MATLAB script. Some changes:
 - (a) Change the value that is assigned to `numEdges`. For example, change the line `numEdges = 400` to `numEdges = 100`. What does this number control?
 - (b) Change the value that is assigned to `turnAngle`. For example, change the line `turnAngle = 65` to `turnAngle = 60`. What does this number control?
 - (c) Change the two colors that are associated with the spiral. For example, instead of `spiralColor1 = 'red'` try `spiralColor1 = 'green'`. Other color possibilities include `cyan`, `green`, `magenta`, `yellow`, and `white`. Don't forget the apostrophes. What happens if you do forget the apostrophes?
 - (d) Browse through the program and use your intuition to find where the background color is set. Change the color to something different.
 - (e) Likewise, change the color of the printed title that reports the value of `numEdges` and `turnAngle`. Modify the format by changing `%3d` to `%5.2f`. What about `%10.6f`?

Running a MATLAB GUI and Modifying Its Appearance

1. Download the files `SpiralGUI.m` and `SpiralGUI.fig` from the course website. Get them both into the current working directory.
2. Click on `SpiralGUI.fig` and choose the "Open in GUIDE" option. This lays out the GUI in a way that permits you to modify its appearance.
3. From the tool menu, select "Run". You can now play with the GUI. Check out the slider bars and the push buttons.
4. Go back to `SpiralGUI.fig` and play with the property editor as shown by the instructor. Make some changes and re-run the GUI. Observe the changes in appearance that result from the modifications that you made in the GUIDE environment.

Checking CMS

Visit the course website and go to the [Projects and Exams](#) page. Click on the CMS link. We use the *Course Management System* for the submission and grading of assignments. Try to log on CMS now. You must be officially registered in the course for this to happen. Should you add the course later, send an email to the instructor including your netID so that you can be added to CMS.

Finished Early?

Download the *Insight* scripts `Eg1_1` and `Eg1_2` and do problems M1.1.1 and M1.1.2 from the text.

Please delete your files from the computer before you leave the lab!