Math 100 — Assignment 3 (MATLAB), due Sept.6, 2012 (no later than 8:00pm)

We will work on these problems in the computer lab (E1 029) on Sept. 4. Finish them and submit them no later than 8:00pm on Sept. 6.

In order to save both your commands and their output while working in the Command window you can save everything to a so-called **diary file** (a simple text file that you can view with any text editor, such as the MATLAB Editor).

Before you start doing any of the following assignments do the following:

- Make sure you know MATLAB's "Current Directory", e.g., the Desktop (or some other Folder you have control over). Change the directory if necessary.

- **At the beginning of each exercise**, type `diary Lastname_[Assignment#]_[Problem#].txt` at the command prompt to begin the recording process of Problem [Problem#] in Assignment [Assignment#], e.g., `diary Fasshauer_1_1.txt`.

- **At the end of each exercise**, type `diary off` to end recording.

Note that all of the output that is displayed in the Command window is stored in the diary file. Graphical output, however, does not get preserved in the diary. Typing `help diary` provides more details.

All problems below are taken from our textbook *Experiments in* MATLAB.

1. Do Exercise 1.1 (Expressions). The functions `asin, sind` and `nthroot` may come in handy. Note that π is `pi` in MATLAB.

2. Do Exercise 1.2 (Temperature conversion). Test the accuracy of your MATLAB statements with $f = 32, 68, 212$ and $c = 0, 20, 100$, respectively.

3. Do Exercise 1.6 (Solving equations). You can add your explanations to the diary file with a text editor after you've ended recording with `diary off`.

4. Do Exercise 1.8 (Fixed points). Verify by hand and add your explanations to your diary file.

5. Do Exercise 1.10 (Another fixed point). Please add comments in the diary file. If you the math is too much, it's OK to submit a separate sheet of paper.

6. Do Exercise 1.11 ($\cos(x)$).

7. Do Exercise 1.16 (Graphics). You can find the code for `goldrect.m` on my website at `http://math.iit.edu/~fass/100_handouts.html` or directly at `http://math.iit.edu/~fass/matlab/goldrect.m`.