Applying Matlab 2

2/1/2008

Opening Discussion

- What did we talk about last class?
- Do you have any questions about the reading?

Functions

- Matlab functions are a bit different from what you are used to in other languages. They can take a variable number of arguments and return a variable number of arguments.
- To return a value, we set a variable with the name specified on the first line of the function to the value we want to return. That is what will be returned when the function terminates.
- You can also have local functions or nested functions. When either of these is used the main function must be terminated with end.
- Function handles are also discussed in the book and they are worth noting.

Writing a Function

- We have our Matlab code to do the iteration for a single pixel of the mandelbrot set. Now make an m-file and put that code into the m-file as a function that takes a point and returns how many iterations it went.
- Let's try to write code that will plot up a full Mandelbrot set for us.

Basic Stat Analysis

- As you have already experienced, Matlab has a set of statistical analysis methods.
  - mean
  - max
  - min
  - std
  - cov – covariance
  - corrcoef – correlation coefficients
  - diff
  - sum
  - More on page 309

Basic Data Analysis

- Matlab also provides filtering functions that combine elements in arrays in various ways that you can specify.
- The filter function does linear combinations of elements in an array.

Closing Remarks

- It's a while before we have anything due.
- Do you feel that we are going at a pace that you can keep up with?