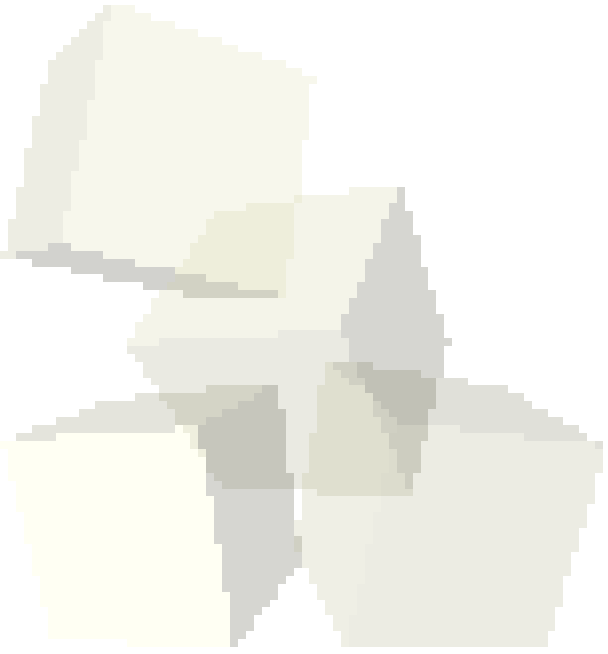
Cell Arrays and Strings

2-3-2010

Opening Discussion

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



Cell Arrays

- You make these with {} or the cell function. They don't have to be rectangular and they can hold any data. Each cell can hold a different type of data.
- We can index into cell arrays with {} as well. If you index a cell array with () you get a cell containing data. If you use {} you get the data that was in the cell.
- Multiple elements can't normally be pulled out with content addressing unless you put them into multiple variables with a comma separated list.
- Anything that produces multiple cells will be turned into a comma separated list. This can be difficult to get your brain around.

Structures

- You can use the dot notation to put fields into a variable to make a structure. Unlike normal imperative languages, the format of the structure isn't predefined.
- Matlab deals with arrays of structures just like numeric arrays.
- The struct function can build arrays of structures from existing cell arrays.
- You can pull out all the values of certain fields with 'dynamic addressing'.

Strings

- Like most other languages, Matlab does give you the ability to use strings, though that isn't a real strength.
- A Matlab string is simply a row array of characters.
- A downside of this is that an array with multiple strings must have all the strings be the same length. The char function can help with that.
- You can also convert from numbers to strings and back with str2num and num2str.
- Matlab also has fprintf and sprintf functions that work much like the C functions.
- Similarly, sscanf will pull numbers out of strings.
- eval and evalc let you process a string like it were

Closing Comments

- We are now less than a week from assignment #3. You should probably look it over so that you can ask questions next class.