Useful Functions in Matlab

Basics:
* math operators: *, .*, ./, +, -, ', .^2, mod, floor, ceil, round
* if statements: if, else if, else, end
* for loops: for, end
* display: disp, num2str, plot, figure, imshow, imagesc, hold on/off, axis
* initializing: zeros, ones, true, false, (0:0.5:2), rand
* getting matrix size: size, length, numel
* concatenating: cat, and []
* matrix operators: sum, mean, std, sort, max, min, sortrows, repmat
* making comparisons: all, any
* getting input: ginput, input
* debugging: breakpoints, keyboard, dbstop if error, dbclear
* saving/loading/clearing: save, load, clear

Cells and structs:
* cell
* struct, setfield, isfield

Images:
* reading: imread
* grayscale: rgb2gray
* converting: im2double, im2single, im2uint8
* resizing: imresize, padarray
* regionprops, bwlabel
* displaying: imshow, imagesc
* saving: print, imwrite

Indexing:
* ind = find(..)
* [y, x] = find(..)
* values = im(logical_ind); % logical indexing
* converting vector/matrix indices: ind2sub, sub2ind
* meshgrid

Filtering:
* imfilter, filter2, conv2
* fspecial

Speed:
* Avoid for loops (vectorize)

* Initialize large matrices (even though you don't have to)
* mex code (if you really want a particular part to be fast)
* Use the profiler: profile on, profile report, profile off
* timing: tic, toc