Work in progress notes of interest from *MATLAB programming with Applications for Engineers* by Stephen J. Chapman 2013.

Chapter 6 & 7
MATLAB passes by value, i.e. copies are made of input arguments to functions. Apparently, there is some mechanism in place that detects if an input variable is changed; and if not, then pass by reference is used. The exact operation this process was not exactly explained in detail and feels pretty sketchy to rely on an automatic process that may largely affect a programs operation.

Function Notes Functions have specific commands that may be useful:

- nargin
- nargout
- inputname
- nargchk

MATLAB allows for `persistent` variables to be declared in a function. These variables are not cleared at the completion of a funciton and instead remain in the the functions local workspace.

Function Functions
MATLABs 'function functions' are functions that accept other functions as input. Some useful function functions are:

- eval('some string') : evaluates input string as if it were typed into the command window.
- feval('someFunc', vals) : evaluates given named function with input values.

Function Search Order

1. Sub functions (functions defined inside a named function)
2. Private functions (functions defined inside a folder named `private` in the current directory)
3. Current directory functions (functions defined in current folder)
4. MATLAB path

Function Handles
Function handles can be used to 'rename' a function.

```
fHandle = @funcName; % creates handle fHandle that would act the same as funcName
fHandle = str2func('funcName'); % same operation as above.
```

Anonymous Functions
One line functions without a name. Returns a function handle that accepts defined input arguments.

```
>> aFunc = @(x) x^2;
>> aFunc(4)
ans =
    16
```