**MATLAB Technique Summa*r*y:**

**Function Review**

Calling a Function

Called from command prompt

or from a script or a function

>> x = …

>> y = …

>> **[A, B] = name(x,y …)**

>> on going calculations with A & B

Defining s Function

- Created in a text editor

- A separate file

function [*output*] = *name*(*input*)

% general help comments

outputs = *calculations with* inputs

* Function calculations do not use the base workspace

**Function Name:**  This name should match the .m file name but otherwise be unique (i.e., not be the same as other variables or functions).

**Function Definition Line syntax example:**

**The Function Definition Line:** is at the beginning of the program & starts with the word “function”

**function** [db, theta] = RLfilter(R, L, f)

**Names:** function and variable names

* Should be unique
* Must begin with a letter
* Cannot include a space
* Must be a combination of letters, numbers and the underscore ( \_ )
* Can be up to 32 characters long

**Input Variables:**  are listed in parentheses following the function name. The must be separated by comas and should be used in function calculations.

**Outputs:** The command line output variables are listed inside square brackets separated by a coma or space. These variables must be assigned a value in the code. Functions can have zero, one or many outputs at the command line. For:

0 variables do not include the square brackets or =

1 variable the square brackets are optional

2 or more variables format as above.

**Help files in User-defined Functions**

The first group of comments in a user-defined function will become the help file for that function. The help file stops at the first line that does not start in a %.

To access this help file:

1. Make sure the program file is in the current directory.

2. Simply type “help *filename”* at the command line (where *filename* is the name of the file that help is being requested for).