## MATLAB: *The Interface*

In this tutorial, the reader will learn about MATLAB environment. In subsequent tutorials, the reader will be introduced to common-command mode, m-file introductory, and plotting. This tutorial is designed for first-time users and those who used MATLAB before and desire to refresh their memory. By the end of these tutorial, the user should be able to effectively solve variety of engineering problems in MATLAB.

1- MATLAB: is a matrix-based system, which means that all variables in MATLAB are considered matrices. Yes, this includes scalar quantities; it is defined in MATLAB as 1x1 matrix. Grasping this concept early enough will help you become acquainted with this environment very quickly. MATLAB is command driven package, which is different from graphic driven package such as Excel or LabView. A list of most common functions will be provided as a reference. A lot more are available in MATLAB and additional MATLAB toolboxes.

Once MATLAB is opened, the following graphical interface is opened and that is what I refer to as MATLAB environment.
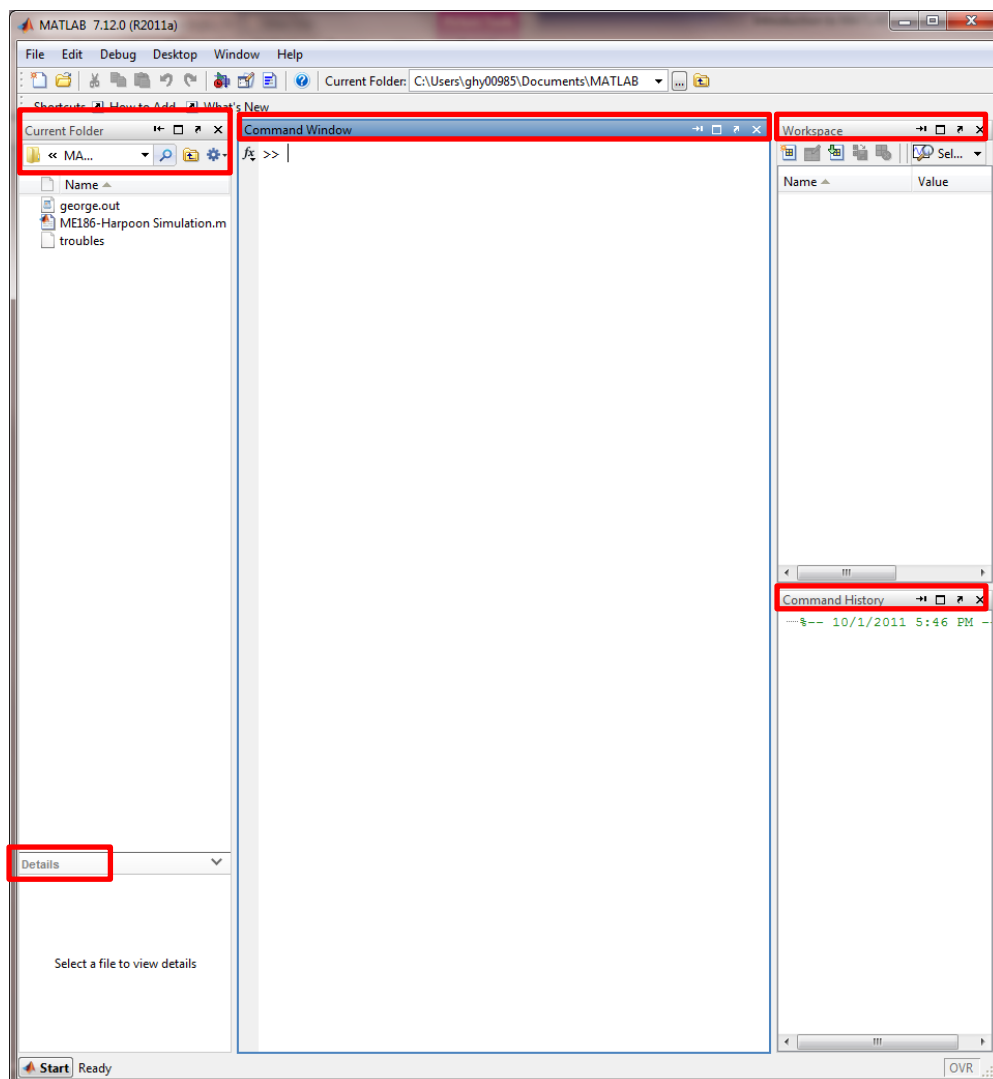
The MATLAB environment consists of:

A. *Current Folder*: This is the directory where MATLAB will save all files. Note if you select a file and look down to the details window, it will display a brief description of the file (usually the first comment line in the code). It will display all files exist in the folder or "Working Directory."

Path of Working Directory

List of files in working directory
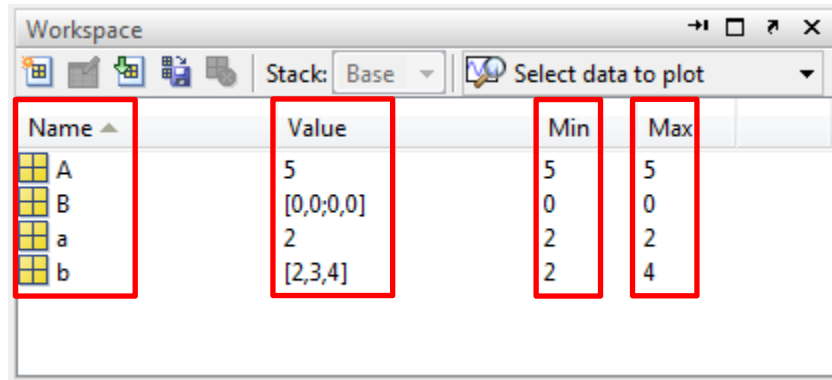
Details of file description "First comment line"
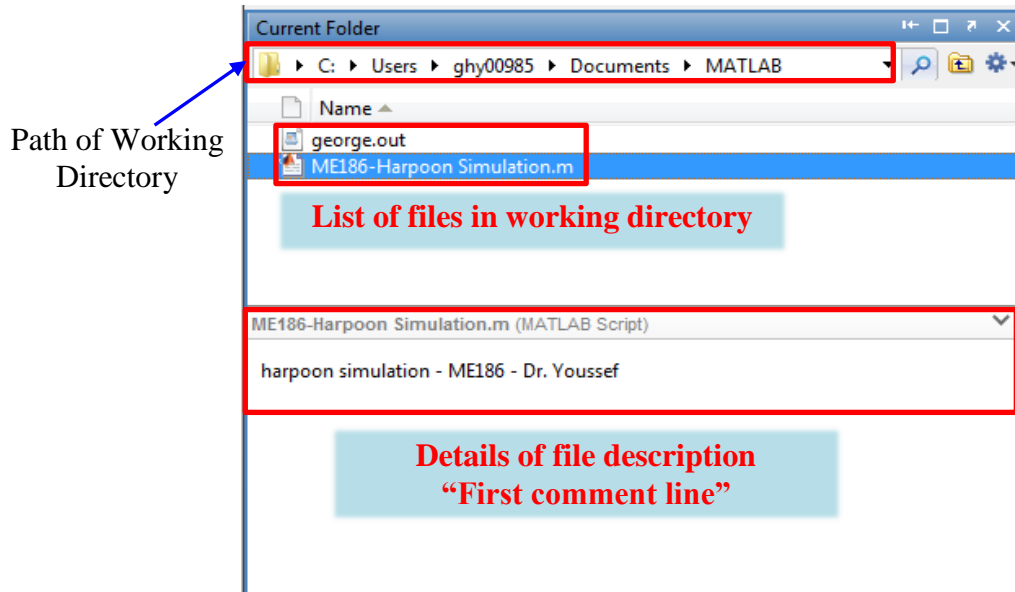
B. Command Window: this is the window is most used, by which we communicate with MATLAB. It is where the user will enter inputs and commands and receives outputs. Think of it like the calculator screen.

Cursor *or* Command line

Command Window Space

Tidbit: To clear the Command Windows of all old or unwanted commands type *clc* then press ENTER

C. *Workspace Window*: this is where all defined variable will appear. In this windows, MATLAB displays variable name, values, minimum and maximum values.

MATLAB is case-sensitive (i.e. a ≠ A), note on the following screenshot that A is a scalar with value of 5 and a is another scalar and its value is 2. Also note that B is 2X2 matric while b is a row vector (i.e. 1x3 matric).
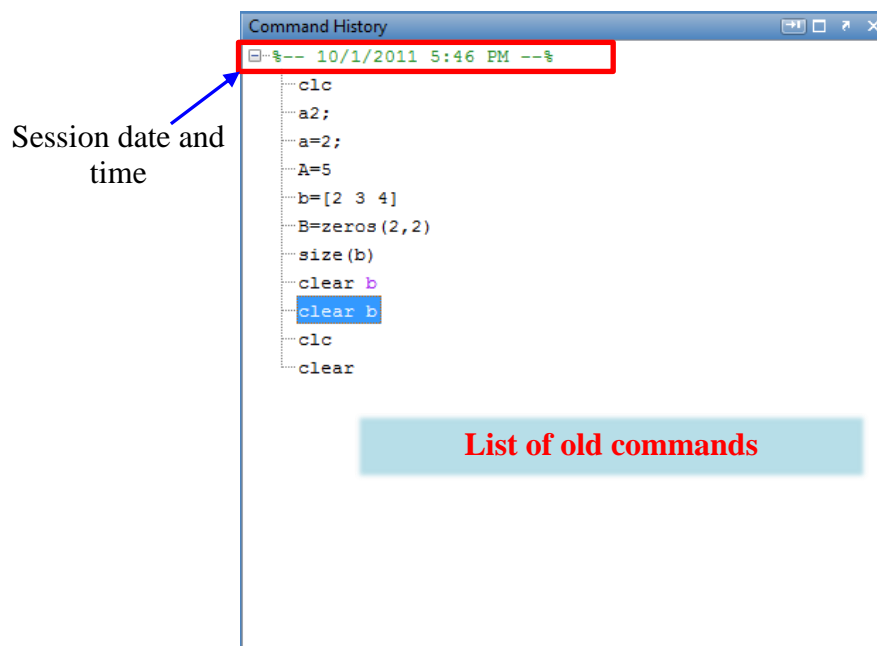

Tidbit: To clear the Workspace Windows of all old or unwanted variables type *clear* then press ENTER

If you would like to delete a specific variable type *clear varaible_name* then press ENTER, such as

D. Command History: All old command that haven been used will appear in the command window. MATLAB organize command for each session.
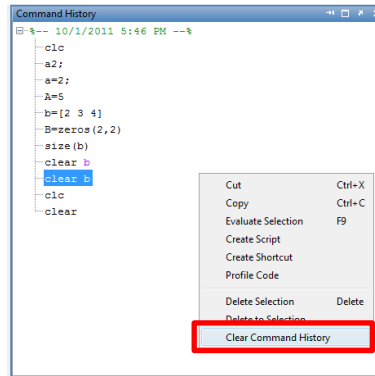
Session date and time
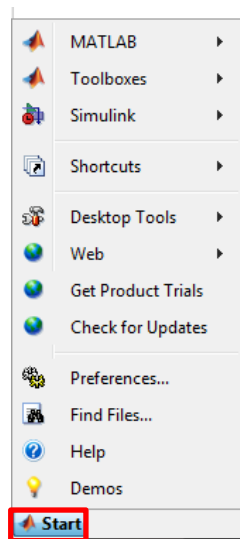

To clear all history sessions and commands, Right-Click inside the Command History and select Clear Command History
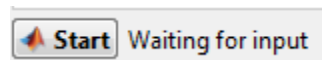
To delete only one command, select command and press DELETE.

E. Start Menu: allow the user to access MATLAB submenus and toolboxes, such as

Also watch beside the START button for MATLAB status, such as when it is waiting for user input

Or when it is busy completing a computation, it displays

It is not recommended to perform another calculation while Busy status is indicated to avoid RAM overflowing.

Tidbit: To exit MATLAB, type *exit* and press ENTER.