

LESSON 01: MATLAB AT A GLANCE

MATLAB can be unbelievably *frustrating*...

I have lost count of the number of times this program has caused me immeasurable amounts of pain through no fault of my own. With poor language design, undocumented quirks, and, at times, seemingly non-deterministic behavior, MATLAB is a beast to tame. It will shamelessly stab you when you least expect it and show you absolutely zero remorse!

That said, it can be incredibly useful when the stars align, so here we are...

The MATLAB Environment

Before we jump head first into the fundamentals of MATLAB, it helps if we take a step back and go over how to interact with its environment.

So What's an M-File?

M-files, denoted with a `.m` extension, are the primary method for scripting MATLAB operations. MATLAB executes the contents of these files as if you had typed them explicitly into the command prompt. Confusingly, M-files can be both executable user scripts or define functions, which we can then reference in other M-files. To execute the contents of an M-file, type its name into the command prompt without the `.m` extension.

But Where to Find M-Files?

The MATLAB Search Path¹ specifies the paths MATLAB will search for M-files. It will first search the current working directory (accessible with `pwd`), your `userpath`, paths specified in the `MATLABPATH` environment variable, and finally, paths added by installed packages. To view the paths in the current search path, you can use the `path` command. To locate the path of an M-file, use the `which` command followed by the name of the M-file you're trying to find.

User-Defined Startup Script

If you'd like to execute some commands before MATLAB starts, you can add a `startup` M-file in the search path. This file is handy if you wish to modify the

¹https://www.mathworks.com/help/matlab/matlab_env/what-is-the-matlab-search-path.html

environment at runtime (i.e. set graphic options). Feel free to take a look at my `startup.m` if you'd like to see an example.