MATLAB Brush Up Course
# Introduction to MATLAB

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This PDF provides an initial guide to the MATLAB environment, complete with descriptions and images for a foundational understanding. After introducing the concept of MATLAB scripts, the learning approach will shift to direct script-based exercises for a more immersive experience.

1 Installing MATLAB

Once you have downloaded MATLAB, I recommend utilizing the installation process to install the necessary toolboxes:

- Econometric Toolbox

- Global optimization Toolbox

- Optimization Toolbox

- Financial Toolbox

- Statistics and Machine Learning Toolbox

- Symbolic Math Toolbox

You can install toolboxes also later on. This can be done by selecting "Add-Ons" from the top bar in the MATLAB "Home" panel, and then clicking on "Get Add-Ons".
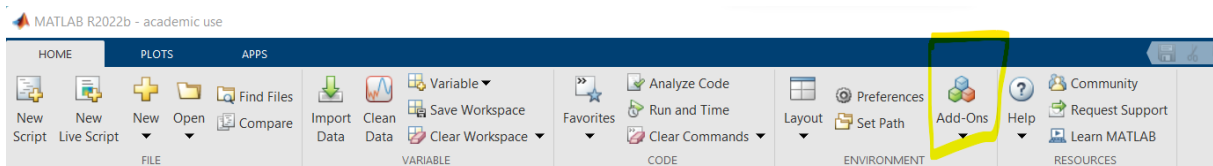

Now you should be able to use MATLAB.

2 The MATLAB Environment

Upon opening MATLAB, you will encounter three main sections in the window:

- **Command Window:** This is where you can perform one-off calculations and execute commands. It's the primary interface for interacting with MATLAB. For example, run:

  `a = 2 + 3`

- **Workspace:** This area displays all the variables created during the current session. After executing `a = 2 + 3` in the Command Window, the variable `a` with value `5` will be listed in the Workspace.

- **Current Folder:** This section shows the files in the directory that MATLAB is currently accessing.

Additionally, when you click on "New Script" from the "Home" panel *(do it)*, it initiates:

- **Script:** A script is used to write and save a sequence of MATLAB commands. Scripts allow you to execute multiple commands at once and are essential for creating reproducible code. Notice that when you open a new script or open another script this moves the active panel to the "Editor" panel. *You will spend most of your time in this window.*
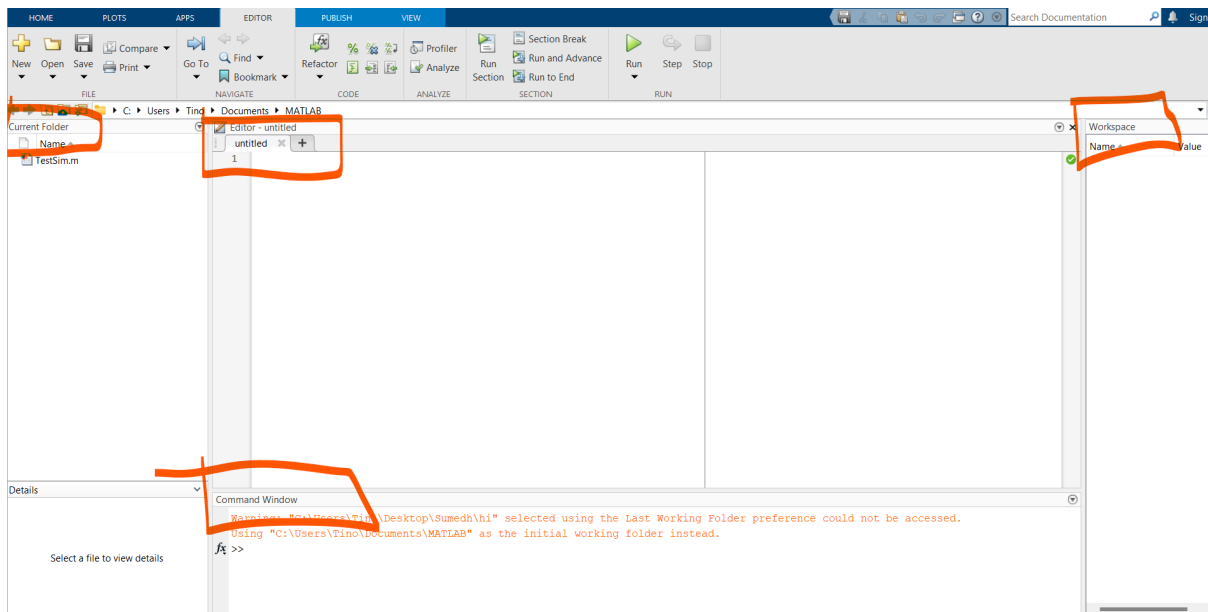
Once you have created a new script, save it to your preferred location. This will generate a file with the extension `.m`, the extension for MATLAB-scripts.

2.1 Running a Script

To execute a script you can press the big green play button on the top of the screen. This will run the entire script. You can also execute individual "sections". A section in MATLAB is separated through a double %% sign.

```
1  %% New section
2  a= 3 + 2   % This is a comment
3
4  %% New section
5  b= 4*a
```

Having familiarized with the MATLAB environment and how to run code,
let's switch to our first MATLAB script and start coding!