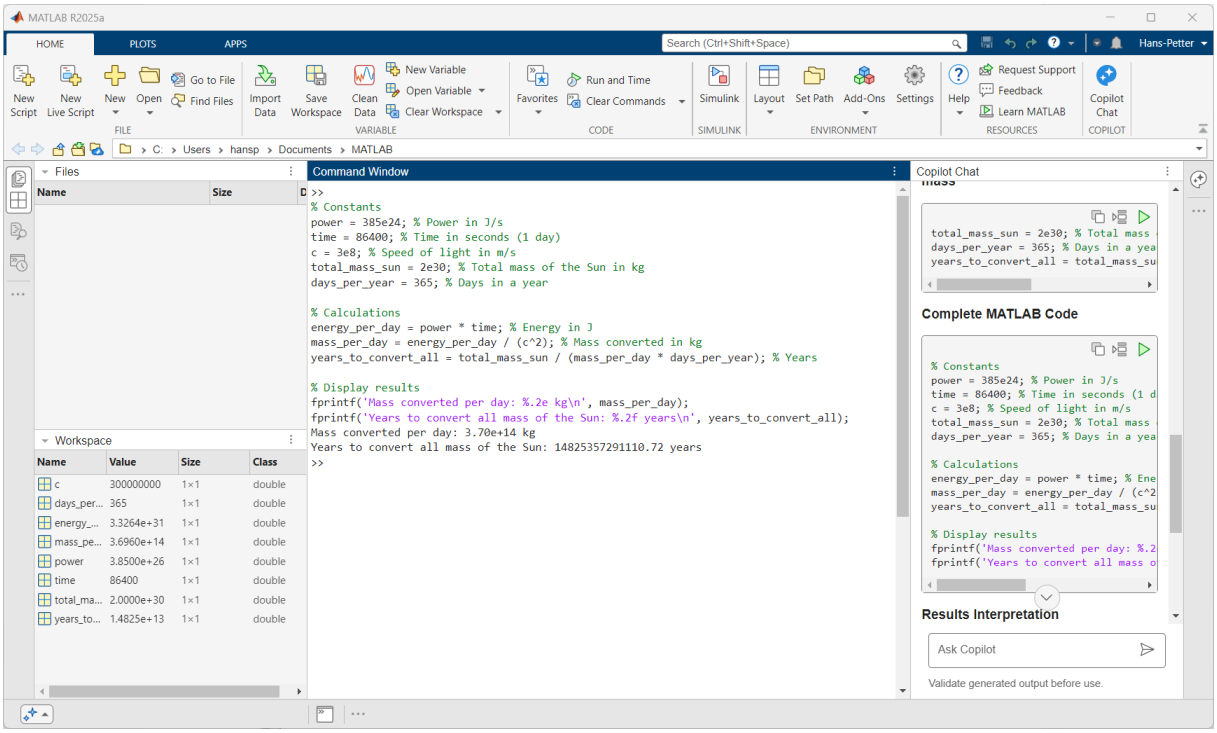
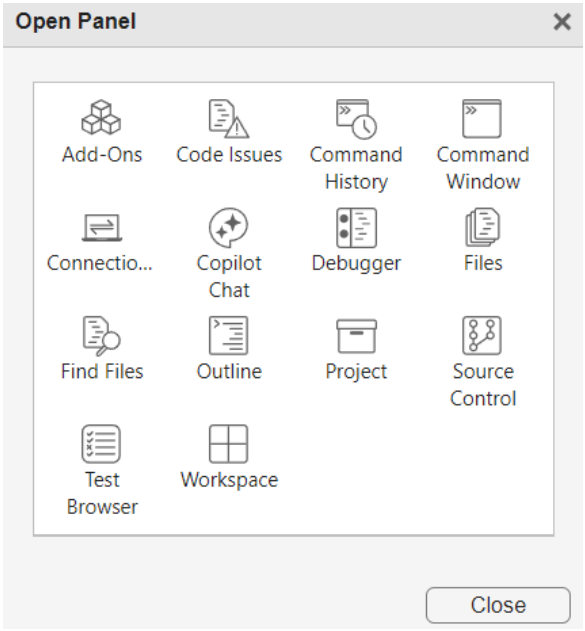
Chapter 1: Getting Started with MATLAB

The MATLAB Environment consists of the following main parts:

- Command Window
- Command History
- Workspace
- Current Folder
- Editor

Below we see the MATLAB environment:





Some of the most used windows/panels are presented below.

Command Window

The **Command Window** is the main window in MATLAB. Use the Command Window to enter variables and to run functions and M-files scripts (more about m-files later).

You type all your commands after the command Prompt "**>>**", e.g., defining the following matrix:

$$A = \begin{bmatrix} 1 & 2 \\ 0 & 3 \end{bmatrix}$$

The MATLAB syntax is as follows:

```
>> A = [1 2;0 3]
```

Or

```
>> A = [1,2;0,3]
```

If you, for an example, want to find the answer to

$$a + b, where\ a = 4, b = 3$$

Type like this:

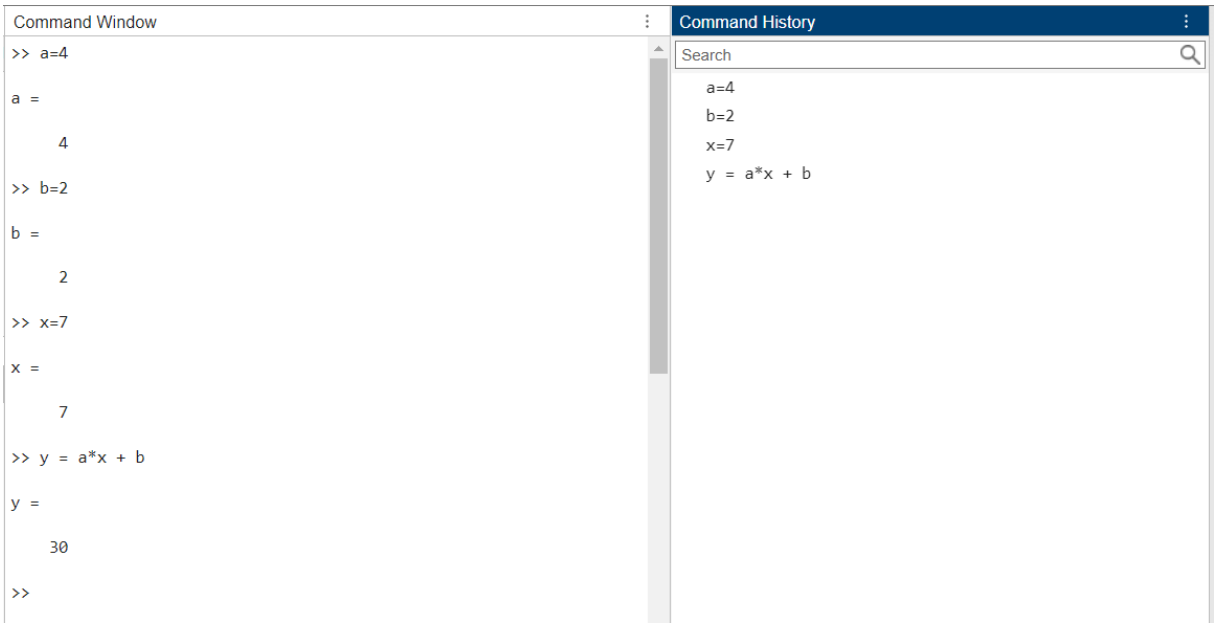
```
>>a = 4
>>b = 3
>>a + b
```

MATLAB then responds:

```
ans =
     7
```

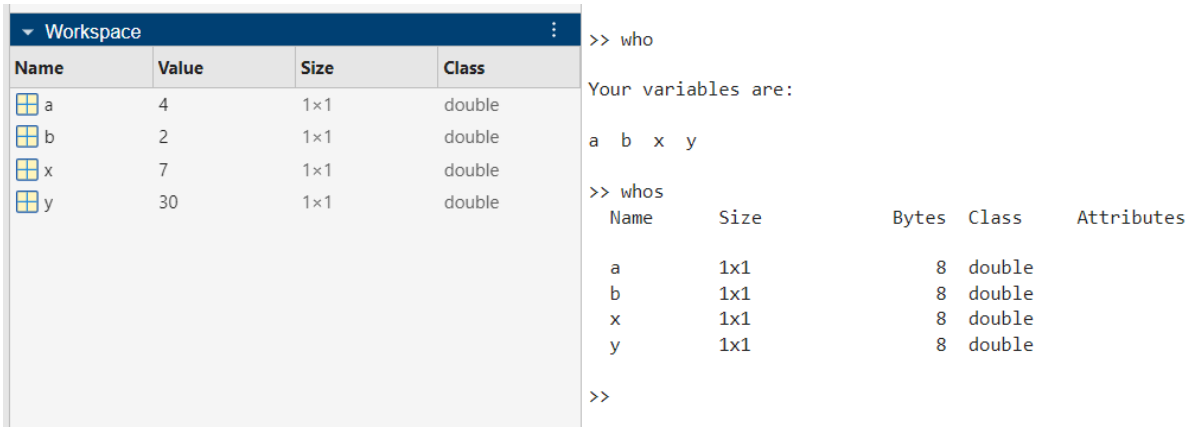
Command History

Statements you enter in the Command Window are logged in the **Command History**. From the Command History, you can view and search for previously run statements, as well as copy and execute selected statements. You can also create an M-file from selected statements.



Workspace

The **Workspace** window list all your variables used as long you have MATLAB opened.



You could also use the following command

```
>>who
```

This command lists all the commands used.

or

```
>>whos
```

This command lists all the command with the current values, dimensions, etc.

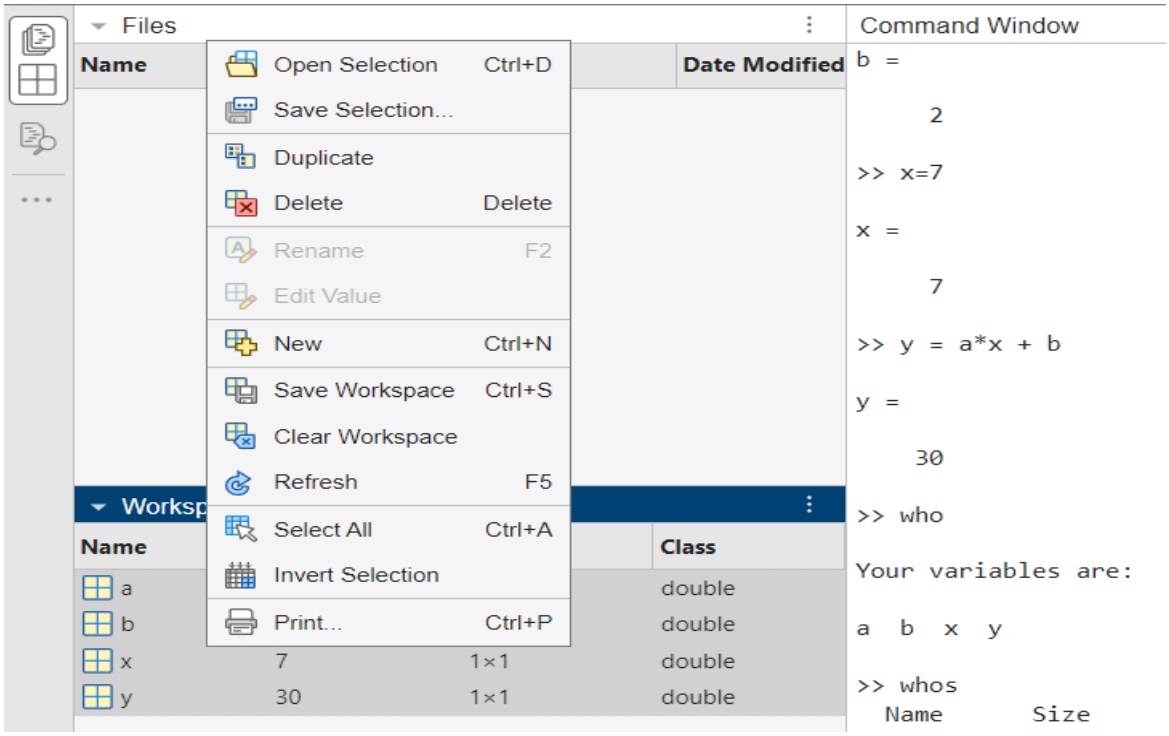
The command `clear`, will clear all the variables in your workplace.

```
>>clear
```

Save your data:

You may also save all your variables and data to a text file (**.mat** file), this is useful if you want to save your data and use it for later.

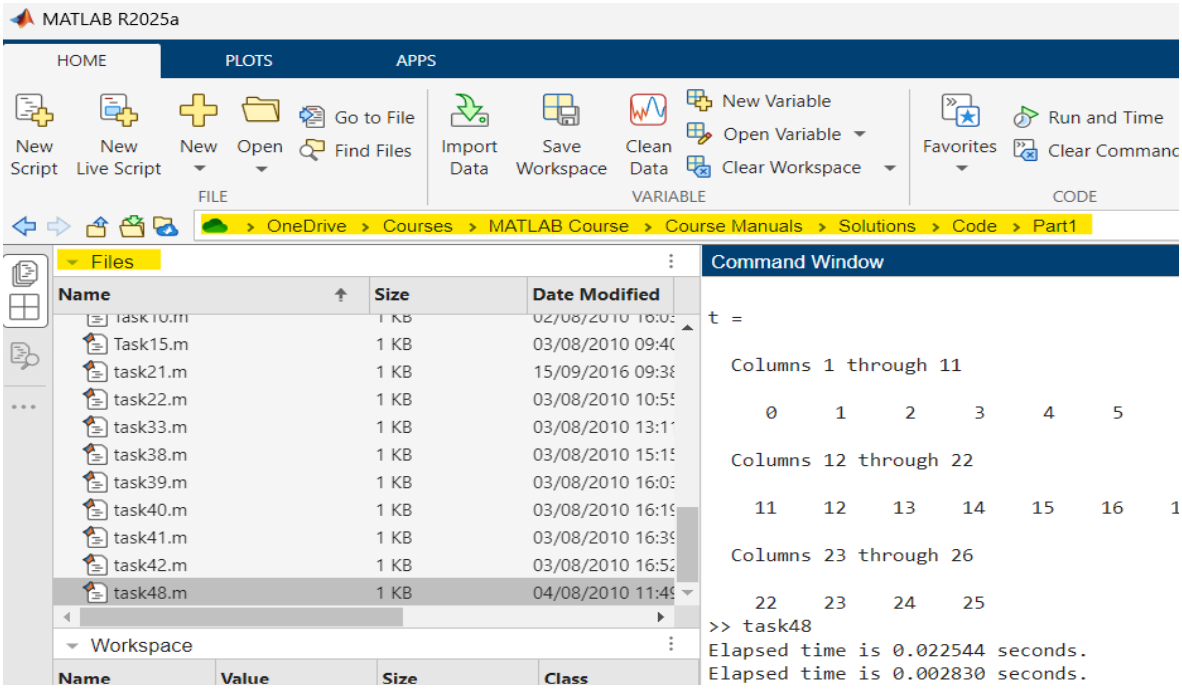
Select the variables you want to save and right-click and select “Save Selection…”:



MATLAB also has commands for this: **save**/**load** and **diary**.

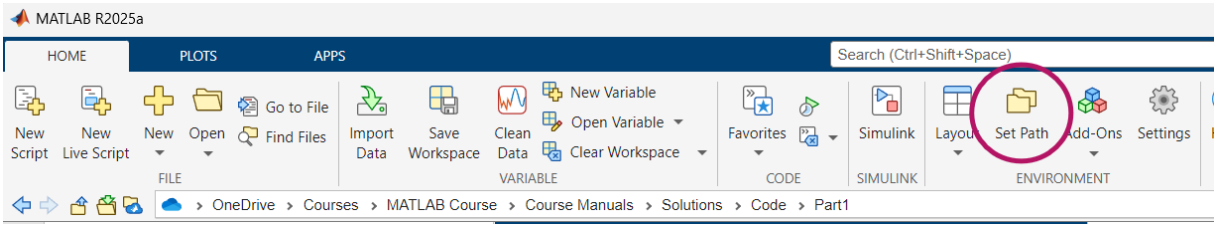
Files

The "**Files**" window lists all m files, etc. available in the current directory.

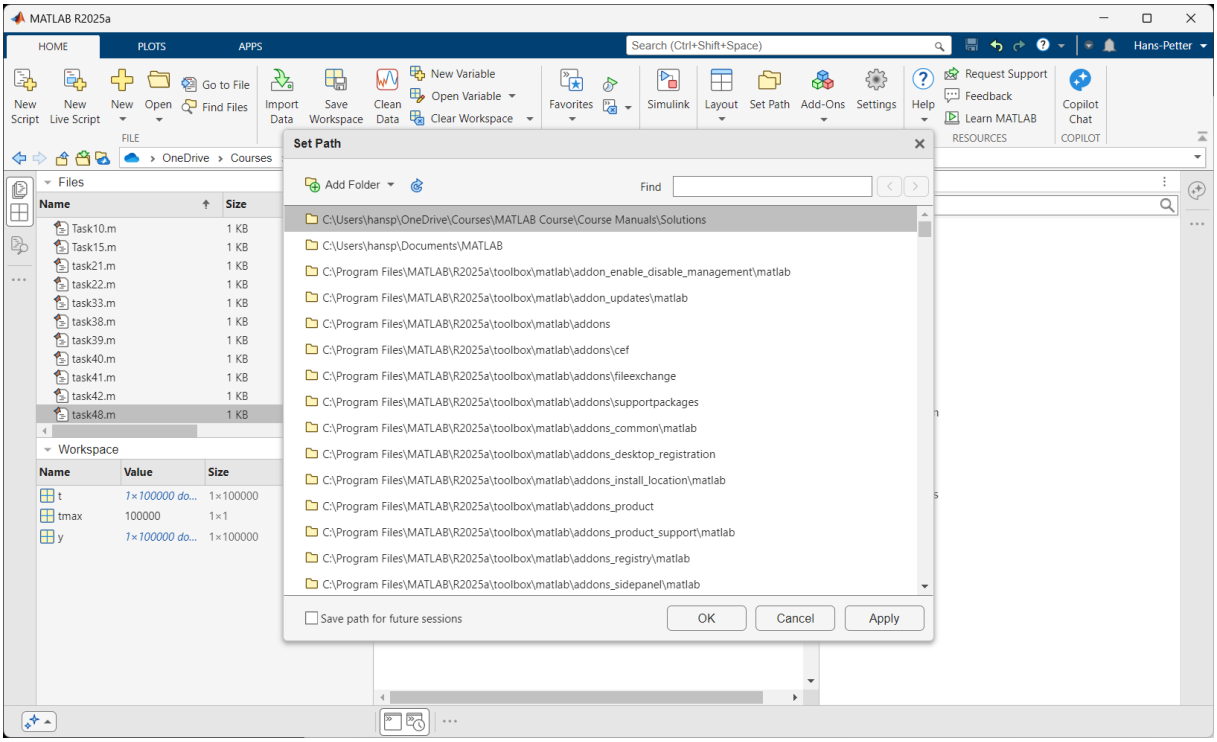


You should set your working folder as the Current Directory or set your working folder as part of the search path. If you don't, MATLAB will not find your files.

Search Path:

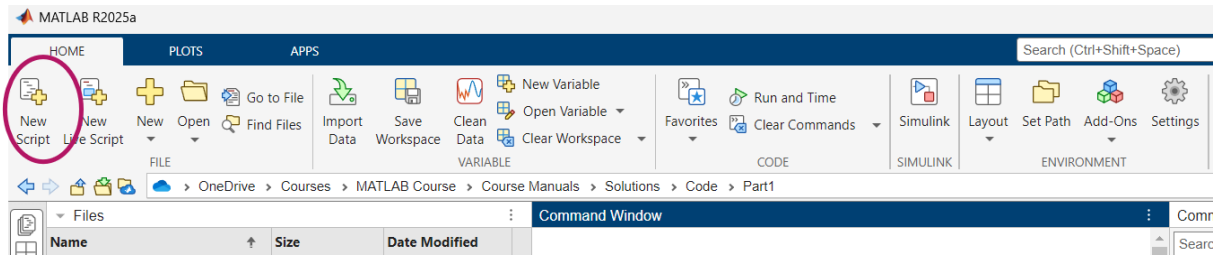


You need to use this if you want MATLAB to find your scripts and functions you want to use.

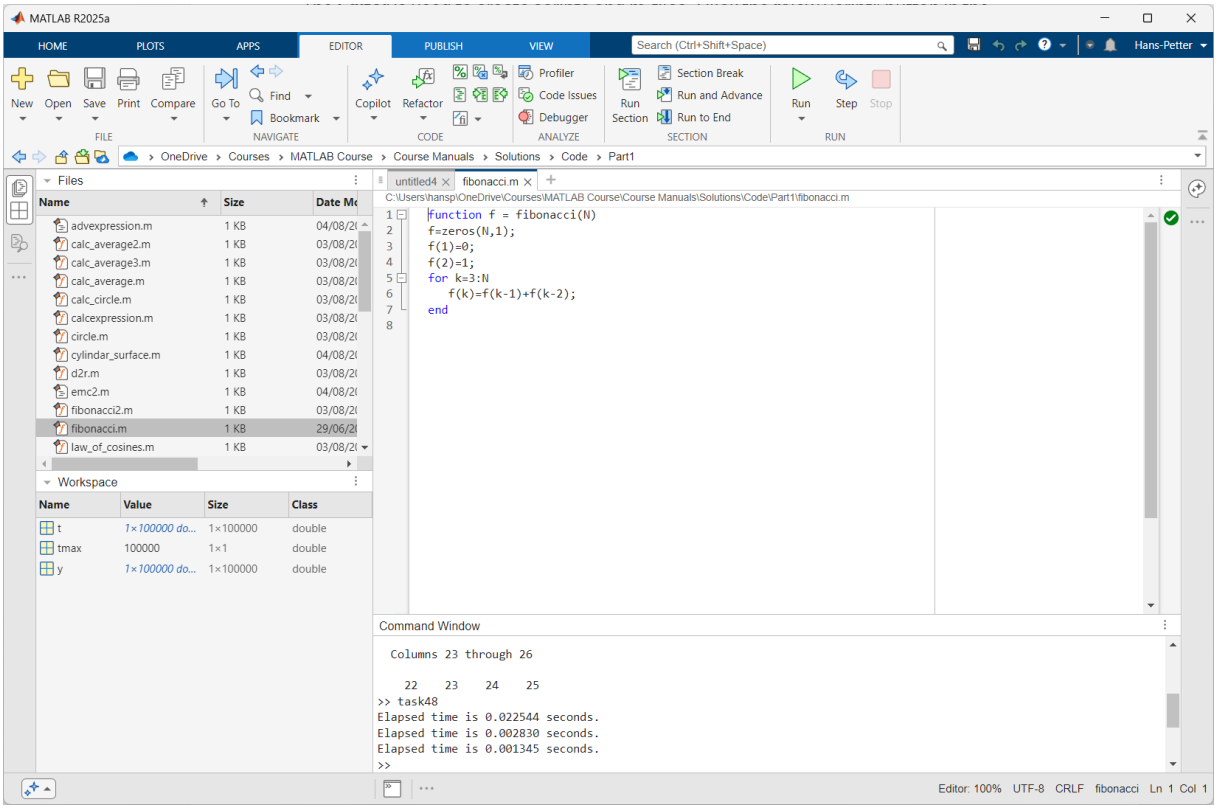


Editor

The **Editor** is used to create scripts and m-files. Click the "New Script" button in the Toolbar.



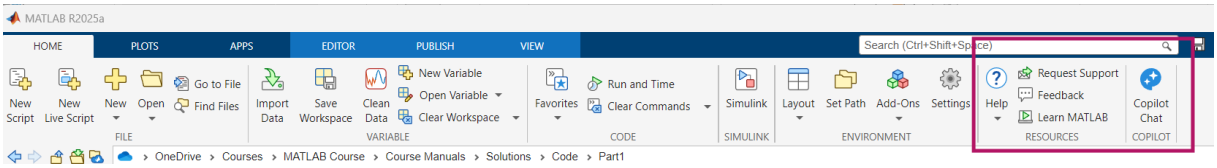
Script Editor:



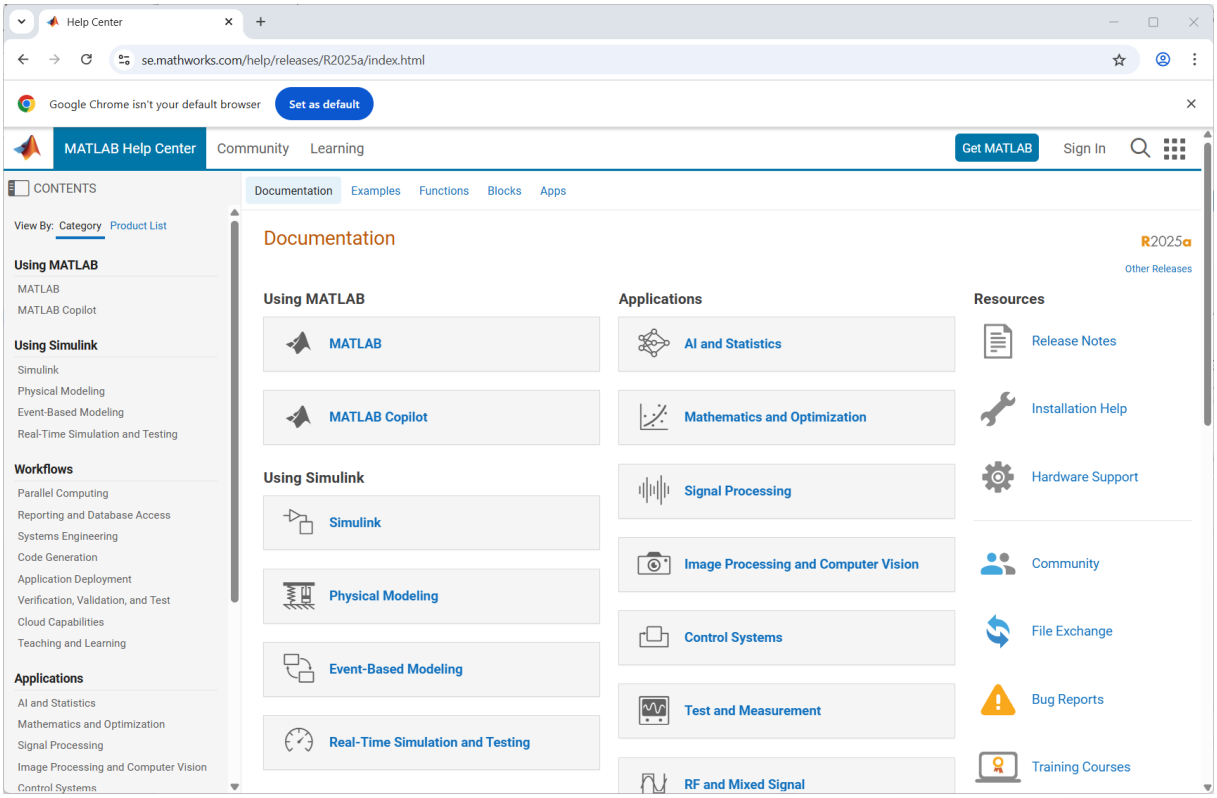
When you learn about m-files (scripts and functions) in a later chapter you will be using this Script Editor to enter your MATLAB code and save them.

Note! In the beginning of the course (chapter 1-5) we will only use the Command Window.

The Help system in MATLAB is quite comprehensive, so make sure you are familiar with how the help system works.



when clicking the “Help” button, the following window appears:



You may also type “**Help**” in the Command window. MATLAB answers with links to lots of Help topics. You may also type more specific, e.g., “**Help elfun**” (Elementary Math Functions), and MATLAB will list all functions according to the specific category.

If you type “**help <functionname>**” you will get specific help about this function.

You may also type "**doc <topic>**" to open the Help window on the specific topic of interest.

Searching:

We can use the **help** keyword when we want to get help for a specific function, but if we want to search for all functions, etc. with a specific keyword you may use the **lookfor** command.

Example:

```
lookfor plot
```

[End of Example]