

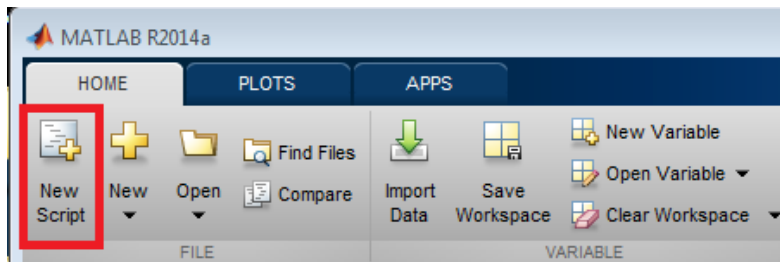
APPENDIX B: Creating and Using MATLAB Scripts

Introduction

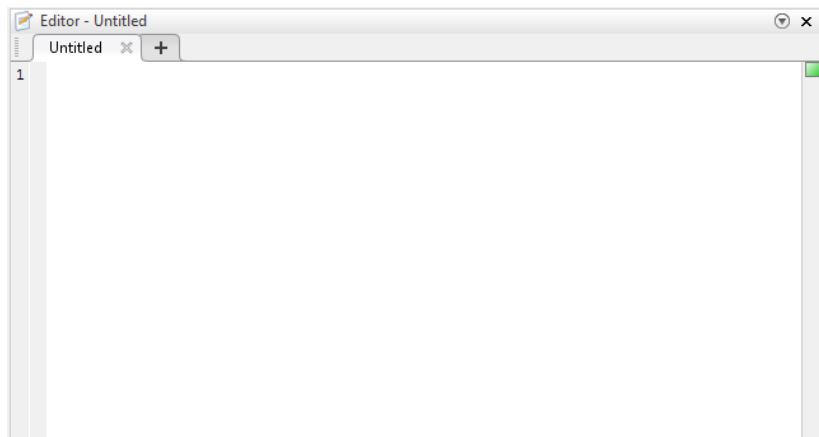
This module is made to show a debatably EASIER method of plotting data collected during the labs in MATLAB. Creating script files allow the user to edit and troubleshoot without having to constantly enter command after command into the command line (>>). It also allows the user to save a script (.m) file that can be opened and used later.

Creating a Script File

In MATLAB, a script file can be created by going to “HOME” -> “New Script”.



This will create a new window named “Editor” in the program for you to enter your commands.



Notes:

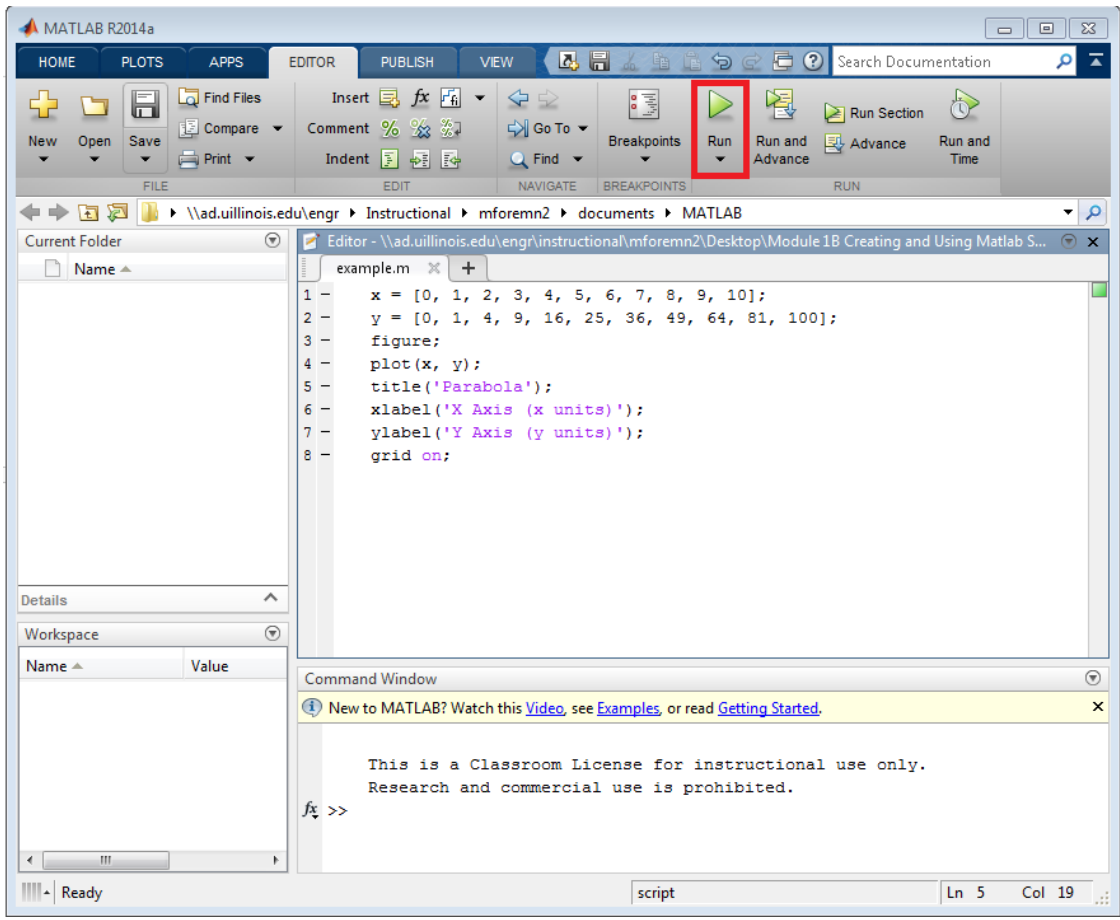
The “Editor” window is used to enter in the commands that you would normally enter into the command line. However, you can now edit the values you entered with ease. Type the following code into the “Editor” window.

```
x = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10];  
y = [0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100];  
figure;  
plot(x, y);  
title('Parabola');  
xlabel('X Axis (x units)');  
ylabel('Y Axis (y units)');  
grid on;
```

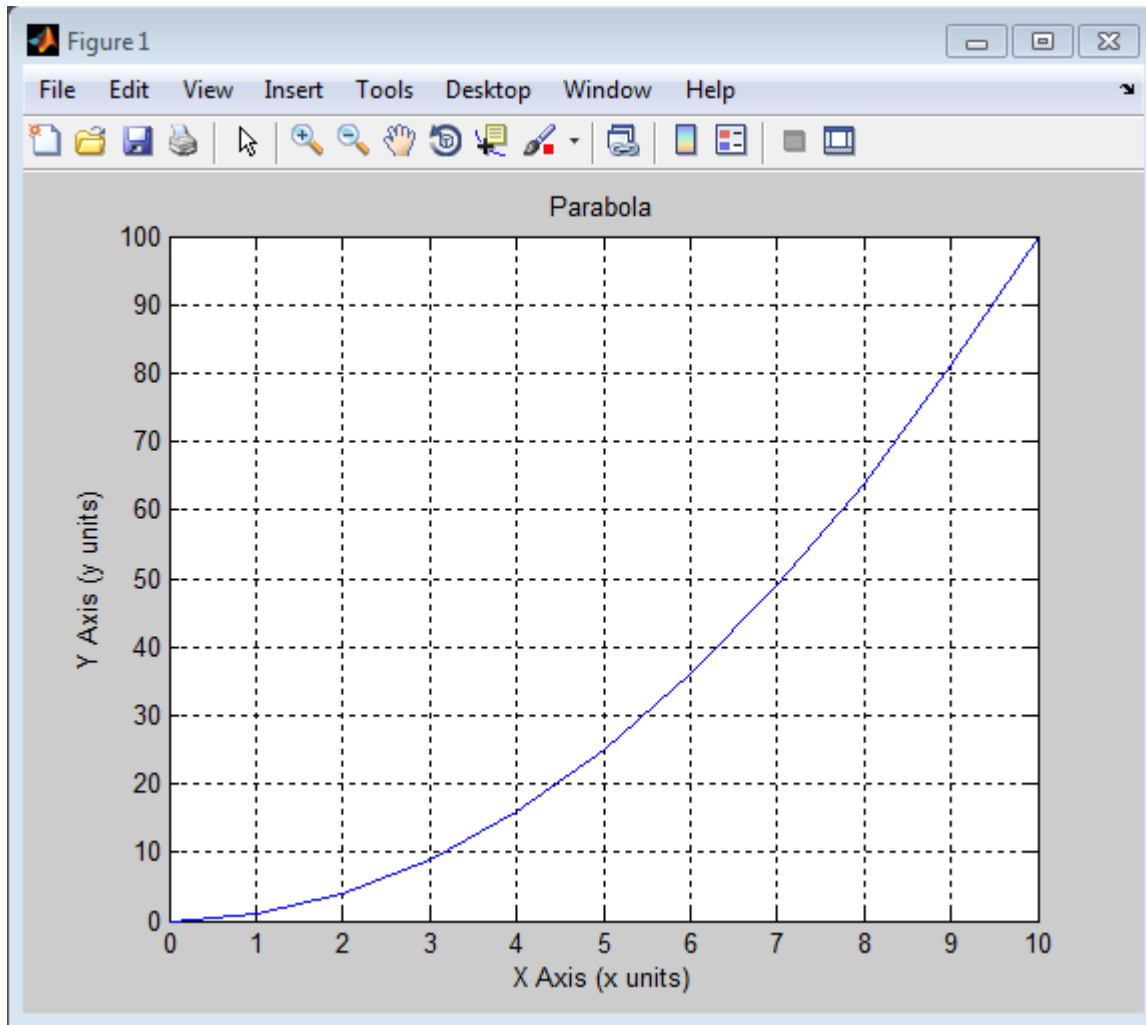
Before running this code, the file needs to be saved. Save the file and give put the file in the desired place with the desired name.

Notes:

After the script file has been saved, the commands can then be all ran at once by going to “EDITOR” -> “Run”.



After hitting the “Run” button the following graph should appear in a new window.



Notes:

Now that you have created your first plot using a MATLAB script file, try changing the values you have entered to the following.

```
x = [0, 1, 4, 9, 16, 25, 36, 49, 64, 81, 100];  
y = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10];  
figure;  
plot(x, y);  
title('Parabola');  
xlabel('X Axis (x units)');  
ylabel('Y Axis (y units)');  
grid on;
```

Notice that the script file is easy to change. Now press “Run” again and see the product of the simple change in the code. Notice that the graph is also no longer a parabola like the title states. Change the title to “Square Root” instead.

```
title('Square Root');
```

What You Learned

Script files in MATLAB are an excellent way to use, edit, and troubleshoot any type of code needed for your activities in lab. Also being able to save your code will allow you to continue your work at a later time on any computer where the file is available.