MATLAB LEP Tutorial

Step 1: Download MATLAB LEP file

a) Open "Living Example problems" of any chapter, for example, open Ch-1 LEP section. You should see following page. Let's download MATLAB code for LEP-P1-3. To do this, simply click on the MATLAB file and you will see that your file is downloaded at the bottom of the browser (for Chrome browser).

The MATLAB codes have extension ".mlx" which means these codes have been created in MATLAB live editor.

Step 2: Know the location of the file.

You should know where your file is downloaded. If you already know it, skip to Step no **3**.

If you don't know, you can "Right click" on the downloaded file and click "Show in folder".

This will show the folder location where your file is downloaded. As you can see, for my laptop, the file is downloaded at desktop.
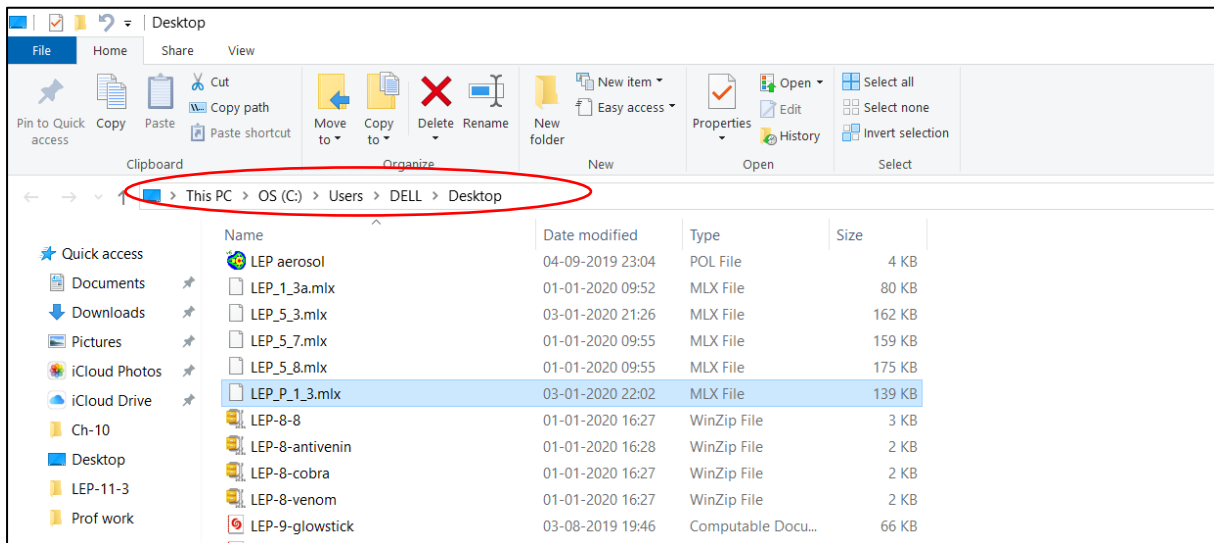
Step 3: Check MATLAB software

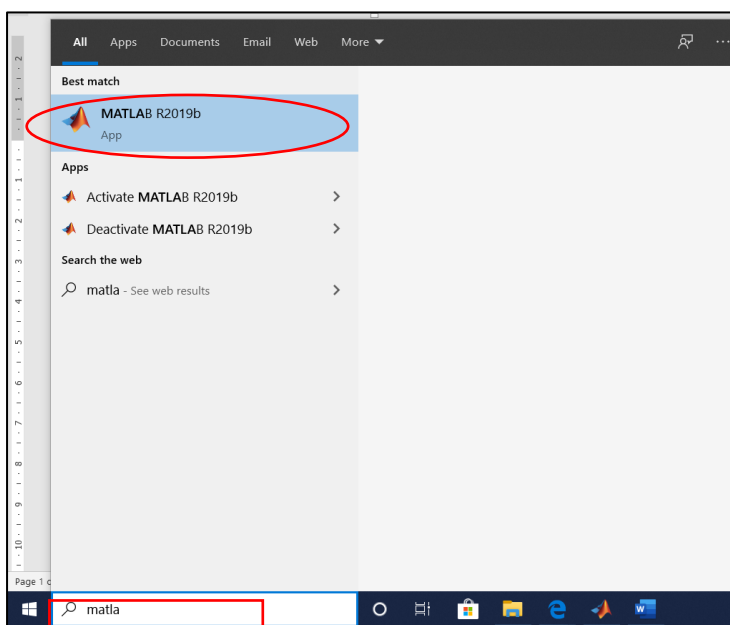Make sure you have MATLAB R2019b installed on your computer. To check it, go to "Search bar" located at the bottom of your desktop and type "matlab". If your computer has MATLAB installed, you should see MATLAB icon/app as shown below.

Note: *Only MATLAB version R2019b or higher will support the LEP code execution.*


If you don't have MATLAB installed, you can check with your University or else download it from www.mathworks.com.

Step 4: Open MATLAB Software

Click on the MATLAB icon (shown in Step 3) to open MATLAB software. You should see something like this.

You should set the MATLAB directory to the place where your file is downloaded. In my case, the file was downloaded at desktop (Refer **Step 2**). So, the directory is set to Desktop as shown below by red circle.

In the "Current Folder" list, you will see all the files present in the selected directory. Use Scroll bar to find your file LEP_P_1_3.
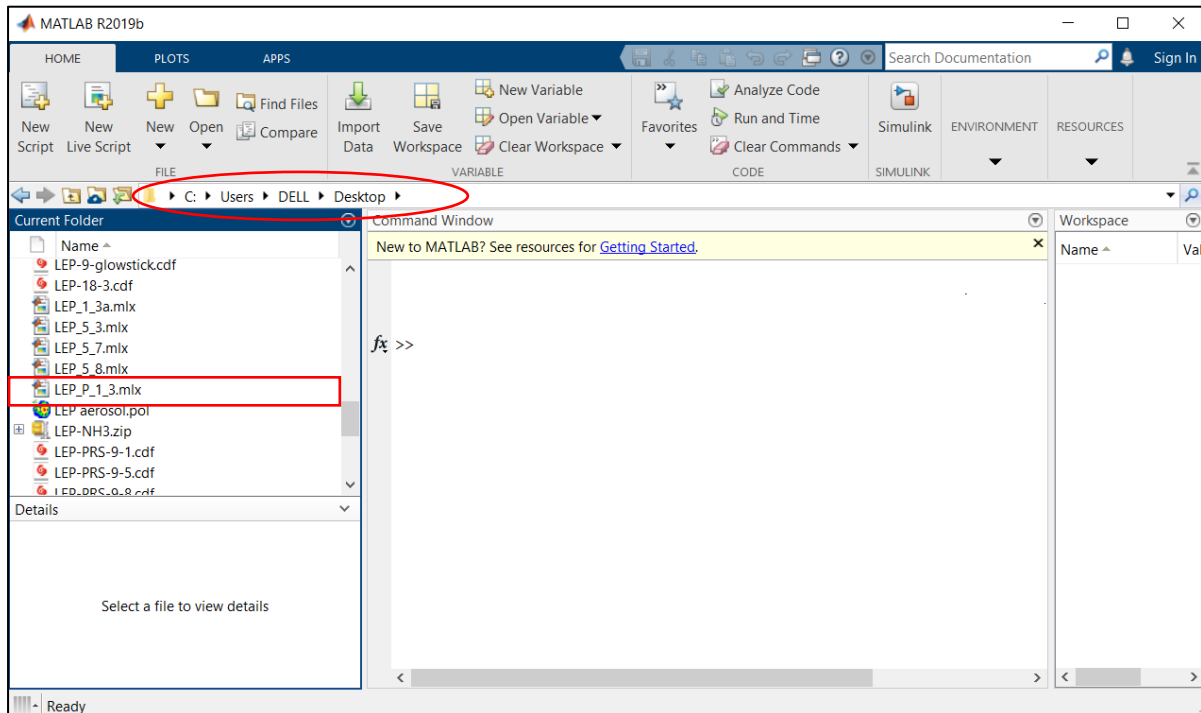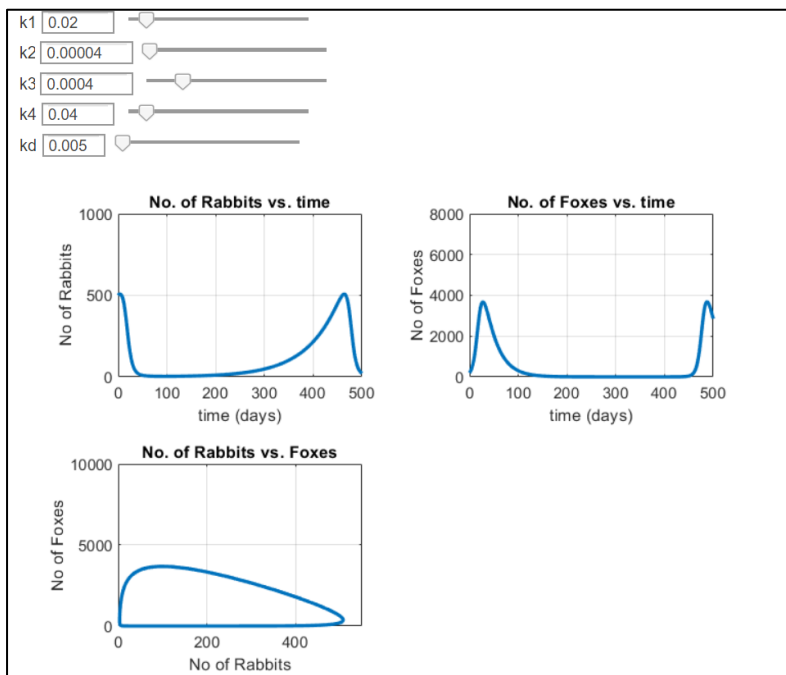

Step 5: Open MATLAB LEP file

Double Click on the file (LEP_P_1_3.mlx) and you shall see the LEP code (as shown below)
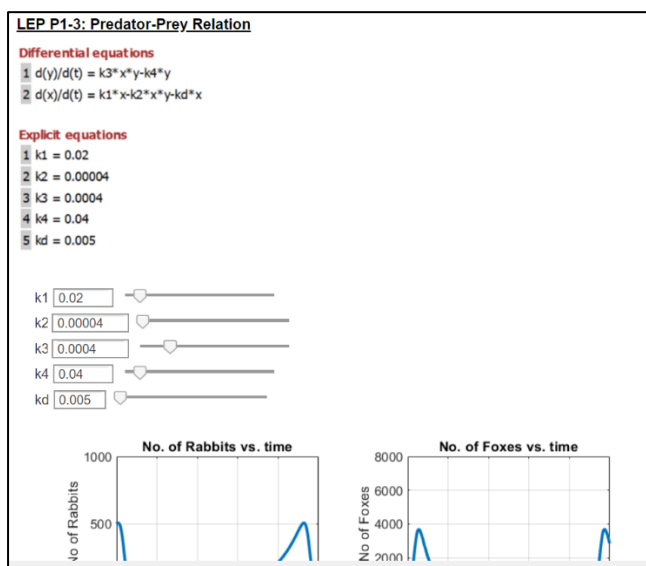
Scroll down to see all the profiles as shown below.

You can now use sliders to change the value of parameters. You can either move the slider or directly enter the parameter value in the box next to parameter.

Step 6: Changing parameter value

Let's change value of k4 to 0.1. Wait for some time. You can see that MATLAB is processing the result by looking at Circular icon ( ) on top left corner. When the processing is complete, you will see updated graph as shown below
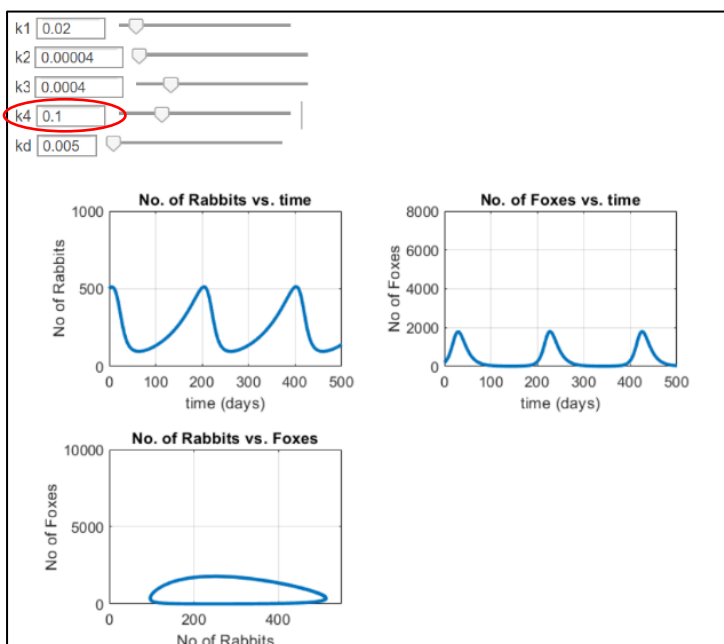
Now, you can play with sliders and see how the graph changes when parameter values are changed.
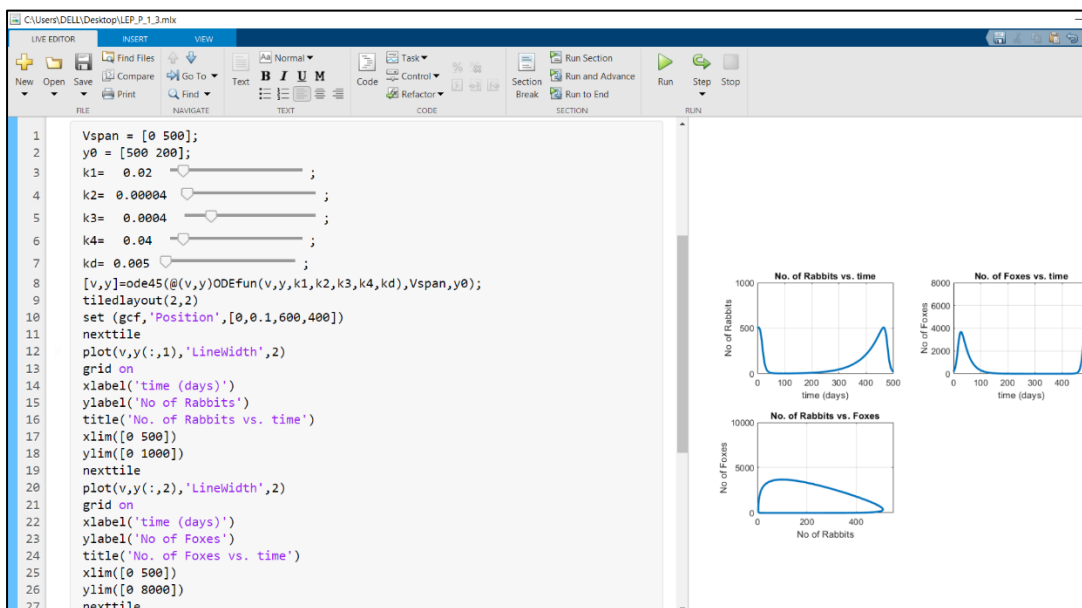
<u>The below additional steps are for those who want to see or modify the codes or use some other MATLAB features</u>

Step 7: Unhiding the code

If you would like to see the code or make any changes to the code, you can do that by clicking on the "Output on Right" icon present on right side of Screen
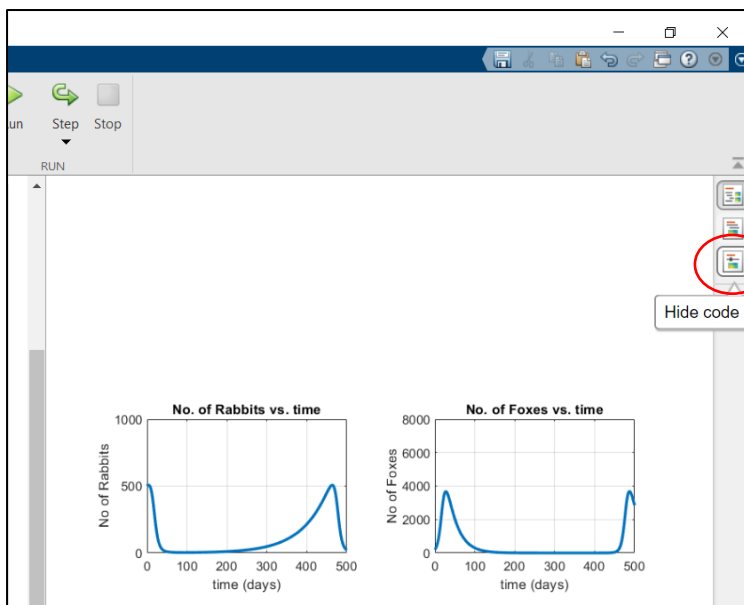

The following screen will appear where you can see and modify the code as required
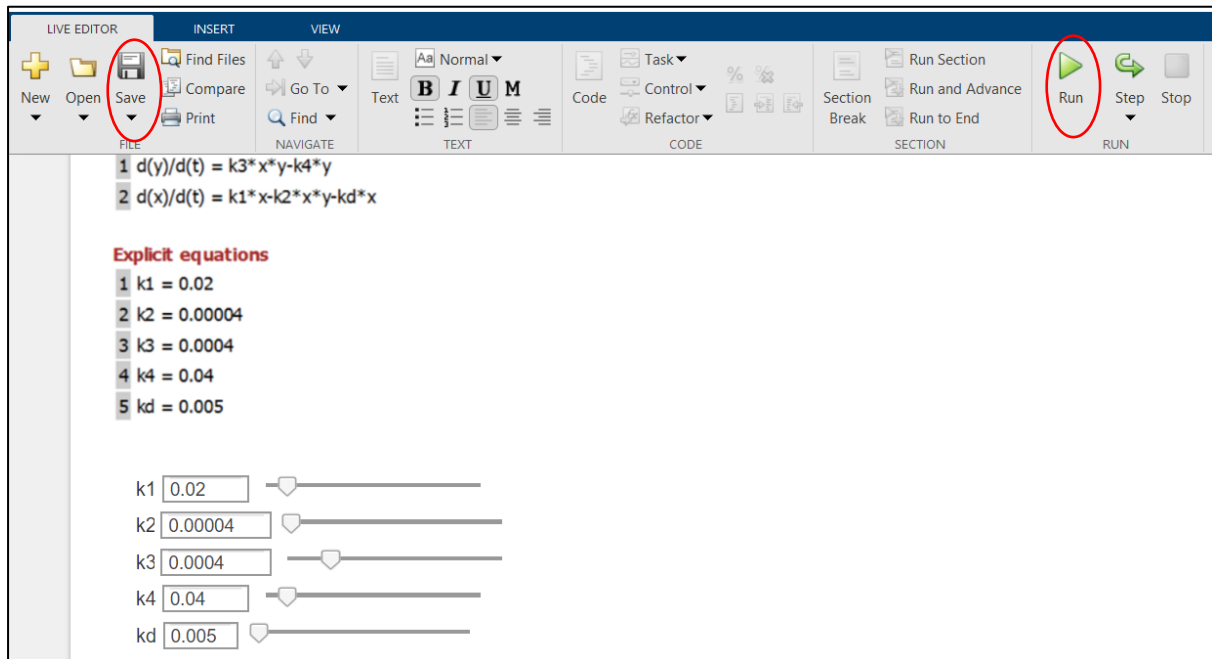

Step 8: Hiding the code

If you would like to hide the code, click on "Hide Code" Button present on top right corner.

Step 9: Executing the modified code

After you have modified the code, you can Save the file using "Save" button. Also, you can Click on "Run" button to execute modified code

Step 10: Other features

You can click on View Tab to see different ways of viewing the code/graph. You can use "Full Screen", if you wish to see graph in full screen. You can also see here icon for hiding/unhinding the code.