

CS3010 – Lab 6 Exercise – Visualization using MatPlotLib

Matplotlib is a Python plotting library which produces publication quality figures in a variety of hardcopy formats and interactive environments across platforms. Matplotlib can be used in Python scripts, the Python and IPython shells, the Jupyter notebook, web application servers, and with graphical user interface toolkits.

Task 1

Your first task is to integrate the plotting option with your notepad. You should provide user the option to view the plots/graph in your interface window. In this task you will simply get the X and Y coordinates information from the user and plot it on the interface. User should be able to select the line width, markers and line types as well.

Task 2

In this task you provide the user to generate more complicated graphs. This means that user must be able to generate subplots. In this task user can provide the inputs for x and y coordinates but you should provide options to generate random data as well and number of points in the data (*linespace function in python*). Again ,make sure that user should be able to configure the properties of the graphs such as line width, markers, colors etc. User should able to generate subplot in horizontal and vertical stacked.

Task 3

In this task you should provide the option to generate log plots. User should be able to configure the log axes along with Legends, Labels and Grid and Spines. You also need to provide the option for generating the twin-Axes graph.

Note: For all these tasks you must display the output in GUI. You have the freedom to use appropriate widget for setting the properties of these graphs.