Requirements

1. Numpy : download from website for windows
2. Matplotlib : pip install matplotlib
3. Serial : pip install pyserial

Class Manager

“Self” means “this” class instance.

Act as a global variable for a class.

Function:

1. \_\_Init\_\_ : initialize all (GUI and constants)
2. \_init\_tkinter : initialize GUI
3. Serial\_process : handles serial data reading
4. Update\_graph : update graph according to data available
5. Animate : animate the update graph smoothly every interval delay

Matplotlib with tkinter tutorial :

1. https://pythonprogramming.net/how-to-embed-matplotlib-graph-tkinter-gui/

2. https://pythonprogramming.net/embedding-live-matplotlib-graph-tkinter-gui/?completed=/how-to-embed-matplotlib-graph-tkinter-gui/

3.https://pythonprogramming.net/organizing-gui/?completed=/embedding-live-matplotlib-graph-tkinter-gui/

4. https://pythonprogramming.net/plotting-live-bitcoin-price-data-tkinter-matplotlib/?completed=/organizing-gui/

How to speed up matplotlib :

1. http://bastibe.de/2013-05-30-speeding-up-matplotlib.html

2. https://taher-zadeh.com/speeding-matplotlib-plotting-times-real-time-monitoring-purposes/

Threading in python with shared queue :

1. https://stackoverflow.com/questions/16044452/sharing-data-between-threads-in-python

2. https://www.troyfawkes.com/learn-python-multithreading-queues-basics/