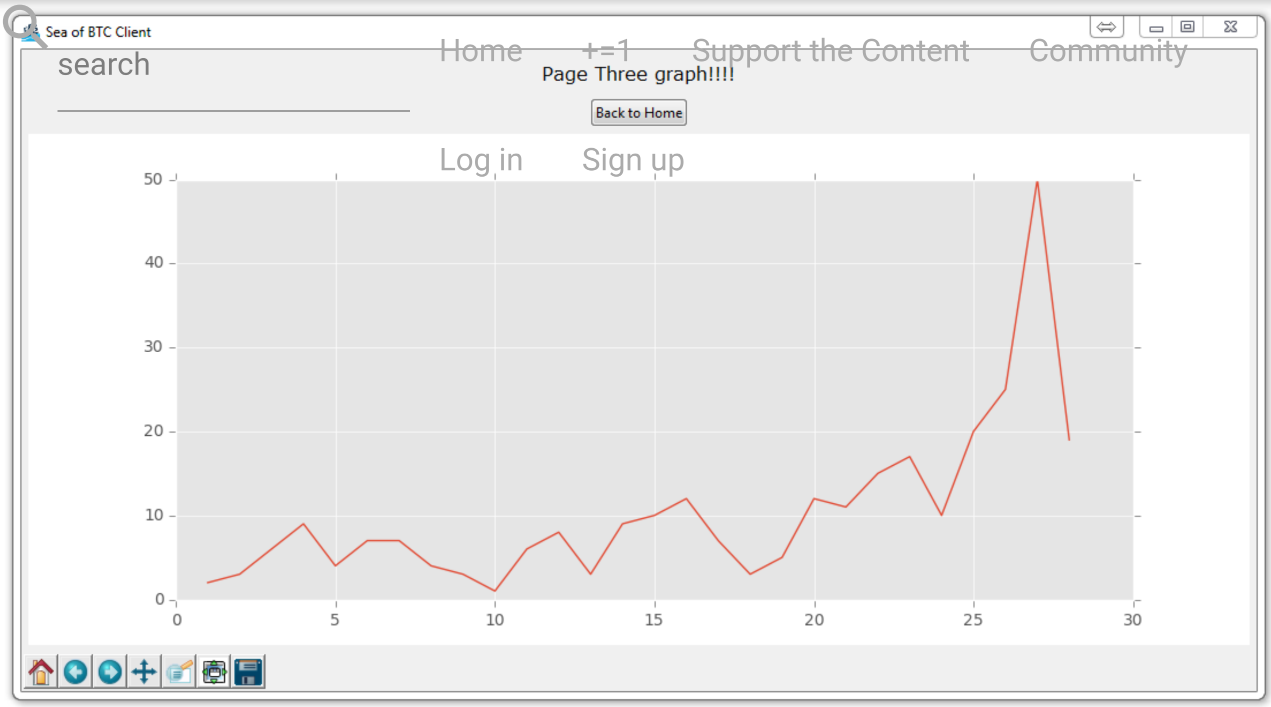


How to make the Matplotlib graph live in your application

Live Matplotlib Graph in Tkinter Window in Python 3 - Tkinter tutorial Pyt...

Now that we have a graph, we want that graph to update live with new prices as they come in eventually, so how do we get this graph to update live? We can utilize our How To Make Live Matplotlib Graphs Tutorial and merge it with our code here.

The other thing we're going to do is utilize Matplotlib styles to quickly improve the overall look of our graph. First we're going to need the following new imports added:

```
import matplotlib.animation as animation
```

This import brings in the animation functionality for Matplotlib.

Next:

```
from matplotlib import style
style.use('ggplot')
```

Here we import Matplotlib's style functionality. Having a problem with this? Download the latest version of Matplotlib.

You can also use pip to update using: `pip install --update matplotlib` in cmd.exe / bash.

If you need help with pip, check out the Pip Tutorial.

Now let's define our figure and subplot at the top of our script under the imports like:

```
f = Figure(figsize=(5,4), dpi=100)
a = f.add_subplot(111)
```

Next, for animating, we're going to make an animation function like so:

```
    dataArray = pullData.split('\n')
    xar=[]
    yar=[]
    for eachLine in dataArray:
        if len(eachLine)>1:
            x,y = eachLine.split(',')
            xar.append(int(x))
            yar.append(int(y))
    a.clear()
    a.plot(xar,yar)
```

Notice sampleText.txt? Well that probably doesn't exist yet for you, so let's go ahead and make that. Just create a simple text file within the same directory as your script, and fill it like:

```
1,2
2,3
3,6
4,9
5,4
6,7
7,7
8,4
9,3
10,1
11,6
12,8
13,3
14,9
15,10
16,12
```

```
19,5
20,12
21,11
22,15
23,17
24,10
25,20
26,25
27,50
28,19
```

Next, let's modify our PageThree class to remove the previous graph that we made:

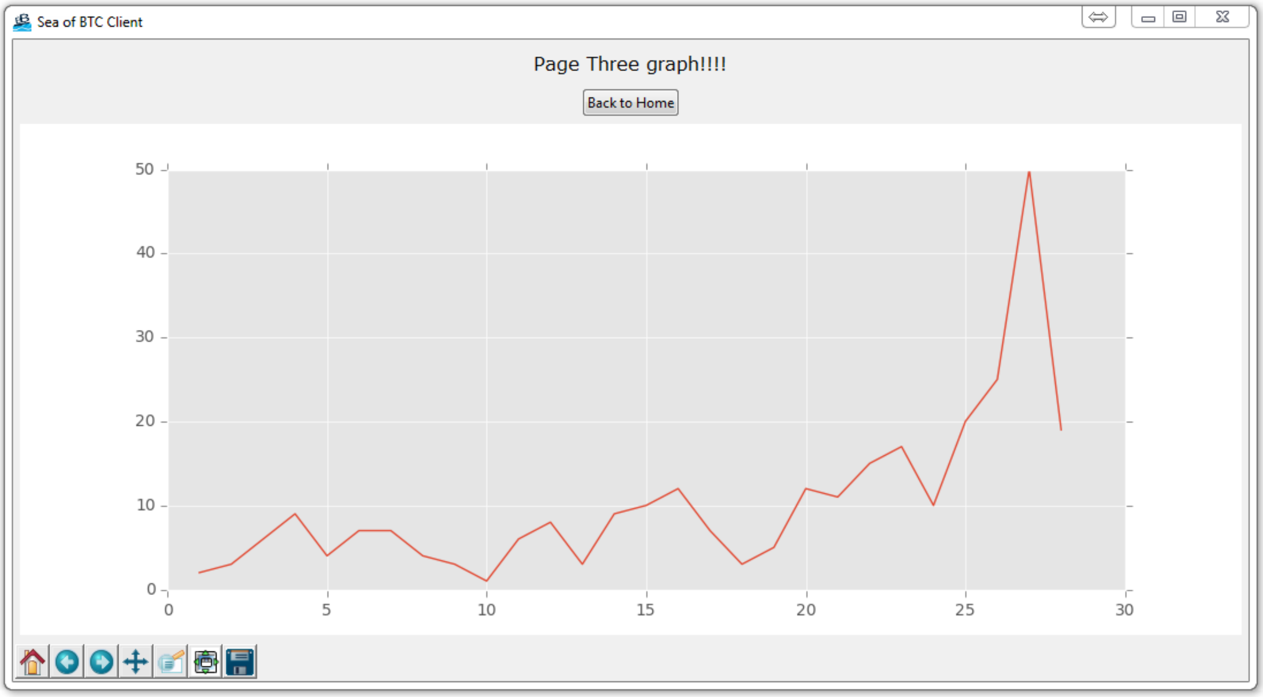
```
class PageThree(tk.Frame):

    def __init__(self, parent, controller):
        tk.Frame.__init__(self, parent)
        label = ttk.Label(self, text="Page Three graph!!!!", font=LARGE_FON
        button1 = ttk.Button(self, text='Back to Home',
                            command=lambda: controller.show_frame(StartPage
        button1.pack()


##        f = Figure(figsize=(5,4), dpi=100)
##        a = f.add_subplot(111)
##        t = arange(0.0,3.0,0.01)
##        s = sin(2*pi*t)
##
##        a.plot(t,s)

        canvas = FigureCanvasTkAgg(f, self)
        canvas.show()
        canvas.get_tk_widget().pack(side=tk.TOP, fill=tk.BOTH, expand=1)

        toolbar = NavigationToolbar2TkAgg( canvas, self )
        toolbar.update()
        canvas._tkcanvas.pack(side=tk.TOP, fill=tk.BOTH, expand=1)
```

Comment out your previous code like I have, or just simply delete it.

finally, at the bottom of our script, we need to add the animation function rules:

```
app = SeaofBTCapp()
####
ani = animation.FuncAnimation(f,animate, interval=1000)
####
app.mainloop()
```

Your end result should be a window, and when clicking on the button for page three:



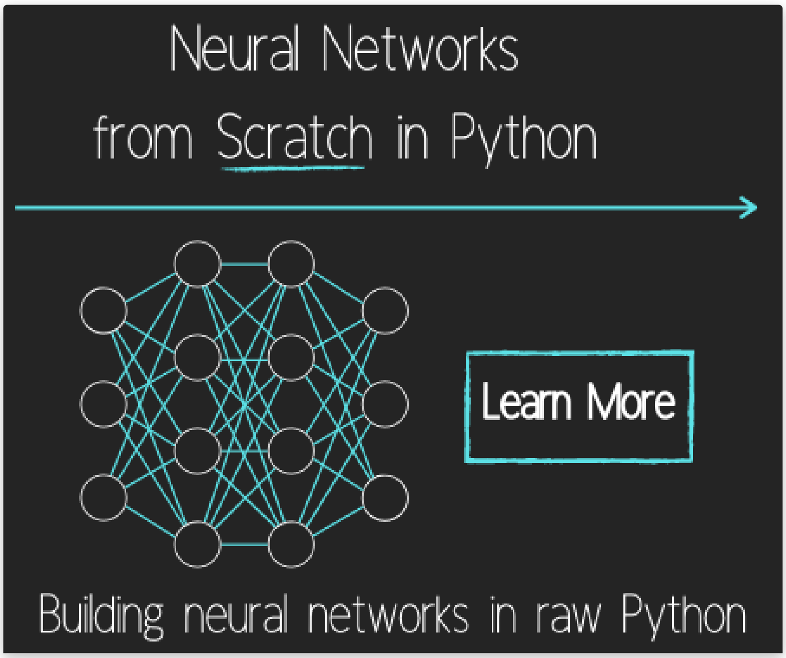
Now, you can feel free to modify your text file with data in it, and, when you hit save, you should see your graph update live in your GUI!

In case you fell behind, here is the full code up to this point:

```
# The code for changing pages was derived from: http://stackoverflow.com/qu
# License: http://creativecommons.org/licenses/by-sa/3.0/
```

```
matplotlib.use("TkAgg")
from matplotlib.backends.backend_tkagg import FigureCanvasTkAgg, Navigation
from matplotlib.figure import Figure
import matplotlib.animation as animation
from matplotlib import style

import tkinter as tk
from tkinter import ttk


LARGE_FONT= ("Verdana", 12)
style.use("ggplot")

f = Figure(figsize=(5,5), dpi=100)
a = f.add_subplot(111)


def animate(i):
    pullData = open("sampleText.txt","r").read()
    dataList = pullData.split('\n')
    xList = []
    yList = []
    for eachLine in dataList:
        if len(eachLine) > 1:
            x, y = eachLine.split(',')
            xList.append(int(x))
            yList.append(int(y))

    a.clear()
    a.plot(xList, yList)




class SeaofBTCapp(tk.Tk):

    def __init__(self, *args, **kwargs):

        tk.Tk.__init__(self, *args, **kwargs)

        tk.Tk.iconbitmap(self, default="clienticon.ico")
        tk.Tk.wm_title(self, "Sea of BTC client")
        container = tk.Frame(self)
        container.pack(side="top", fill="both", expand = True)
        container.grid_rowconfigure(0, weight=1)
        container.grid_columnconfigure(0, weight=1)

        self.frames = {}

        for F in (StartPage, PageOne, PageTwo, PageThree):

            frame = F(container, self)

            self.frames[F] = frame

            frame.grid(row=0, column=0, sticky="nsew")

        self.show_frame(StartPage)

    def show_frame(self, cont):

        frame = self.frames[cont]
        frame.tkraise()


class StartPage(tk.Frame):

    def __init__(self, parent, controller):
        tk.Frame.__init__(self,parent)
        label = tk.Label(self, text="Start Page", font=LARGE_FONT)
        label.pack(pady=10,padx=10)

        button = ttk.Button(self, text="Visit Page 1",
                            command=lambda: controller.show_frame(PageOne))
        button.pack()

        button2 = ttk.Button(self, text="Visit Page 2",
                            command=lambda: controller.show_frame(PageTwo))
        button2.pack()

        button3 = ttk.Button(self, text="Graph Page",
                            command=lambda: controller.show_frame(PageThree
        button3.pack()
    def __init__(self, parent, controller):
        tk.Frame.__init__(self, parent)
        label = tk.Label(self, text="Page One!!!", font=LARGE_FONT)
        label.pack(pady=10,padx=10)

        button1 = ttk.Button(self, text="Back to Home",
                            command=lambda: controller.show_frame(StartPage
        button1.pack()

        button2 = ttk.Button(self, text="Page Two",
                            command=lambda: controller.show_frame(PageTwo))
        button2.pack()


class PageTwo(tk.Frame):

    def __init__(self, parent, controller):
        tk.Frame.__init__(self, parent)
        label = tk.Label(self, text="Page Two!!!", font=LARGE_FONT)
        label.pack(pady=10,padx=10)

        button1 = ttk.Button(self, text="Back to Home",
                            command=lambda: controller.show_frame(StartPage
        button1.pack()

        button2 = ttk.Button(self, text="Page One",
                            command=lambda: controller.show_frame(PageOne))
        button2.pack()


class PageThree(tk.Frame):

    def __init__(self, parent, controller):
        tk.Frame.__init__(self, parent)
        label = tk.Label(self, text="Graph Page!", font=LARGE_FONT)
        label.pack(pady=10,padx=10)

        button1 = ttk.Button(self, text="Back to Home",
                            command=lambda: controller.show_frame(StartPage
        button1.pack()
        canvas = FigureCanvasTkAgg(f, self)
        canvas.show()
        canvas.get_tk_widget().pack(side=tk.BOTTOM, fill=tk.BOTH, expand=Tr

        toolbar = NavigationToolbar2TkAgg(canvas, self)
        toolbar.update()
        canvas._tkcanvas.pack(side=tk.TOP, fill=tk.BOTH, expand=True)


app = SeaofBTCapp()
ani = animation.FuncAnimation(f, animate, interval=1000)
app.mainloop()
```

The next tutorial: Organizing Our GUI



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