Python Development GUI:

Follow the exercises in order to learn more about Python GUI support;

Preparation: on your Windows host machine search for Python from the start menu and find IDLE and run it, run the Python 3. Not Python 2.

1. First GUI with nothing inside, copy the code, run it and understand what it does:

```
#======================
# imports
#======================
import tkinter as tk

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

#======================
# Start GUI
#======================
win.mainloop()
```

2. First GUI with a label, copy the code, run it and understand what it does:

```
#======================
# imports
#======================
import tkinter as tk
from tkinter import ttk

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Adding a Label
ttk.Label(win, text="A Label").grid(column=0, row=0)

#======================
# Start GUI
#======================
win.mainloop()
```

3. Adding a Button that changes its properties and label properties, copy the code, run it and understand what it does:

```
#======================
# imports
#======================
import tkinter as tk
from tkinter import ttk

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Modify adding a Label
aLabel = ttk.Label(win, text="A Label")
aLabel.grid(column=0, row=0)

# Button Click Event Function
def clickMe():
    action.configure(text="** I have been Clicked! **")
    aLabel.configure(foreground='red')
    aLabel.configure(text='A Red Label')

# Adding a Button
action = ttk.Button(win, text="Click Me!", command=clickMe)
action.grid(column=1, row=0)


#======================
# Start GUI
#======================
win.mainloop()
```

4. Adding a Button that changes its properties using text entered in a textbox, copy the code, run it and understand what it does:

```
#======================
# imports
#======================
import tkinter as tk
from tkinter import ttk

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Modify adding a Label
aLabel = ttk.Label(win, text="A Label")
aLabel.grid(column=0, row=0)

#Modified Button Click Function
def clickMe():
    action.configure(text='Hello ' + name.get())

# Changing our Label
ttk.Label(win, text="Enter a name:").grid(column=0, row=0)

# Adding a Textbox Entry widget
name = tk.StringVar()
nameEntered = ttk.Entry(win, width=12, textvariable=name)
nameEntered.grid(column=0, row=1)

# Adding a Button
action = ttk.Button(win, text="Click Me!", command=clickMe)
action.grid(column=1, row=1)

#======================
# Start GUI
#======================
win.mainloop()
```

5. Adding a Button that changes its properties using text entered in a textbox and a ComboBox, copy the code, run it and understand what it does: Note: notice the use of grid structure.

```
import tkinter as tk
from tkinter import ttk

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Modify adding a Label
aLabel = ttk.Label(win, text="A Label")
aLabel.grid(column=0, row=0)

# Modified Button Click Function
def clickMe():
    action.configure(text='Hello ' + name.get() + ' '+ numberChosen.get())

# Changing our Label
ttk.Label(win, text="Enter a name:").grid(column=0, row=0)

# Adding a Textbox Entry widget
name = tk.StringVar()
nameEntered = ttk.Entry(win, width=12, textvariable=name)
nameEntered.grid(column=0, row=1)

# Adding a Button
action = ttk.Button(win, text="Click Me!", command=clickMe)
action.grid(column=2, row=1)
#action.configure(state='disabled')    # Disable the Button Widget

ttk.Label(win, text="Choose a number:").grid(column=1, row=0)
number = tk.StringVar()
numberChosen = ttk.Combobox(win, width=12, textvariable=number, state='readonly')
numberChosen['values'] = (1, 2, 4, 42, 100)
numberChosen.grid(column=1, row=1)
numberChosen.current(0)

nameEntered.focus()     # Place cursor into name Entry
#======================
# Start GUI
#======================
win.mainloop()
```

6. Adding scrolledtext to the previous example, copy the code, run it and understand what it does:

```
import tkinter as tk
from tkinter import ttk
from tkinter import scrolledtext

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Modify adding a Label
aLabel = ttk.Label(win, text="A Label")
aLabel.grid(column=0, row=0)

#Modified Button Click Function
def clickMe():
    action.configure(text='Hello ' + name.get())

# Changing our Label
ttk.Label(win, text="Enter a name:").grid(column=0, row=0)

# Adding a Textbox Entry widget
name = tk.StringVar()
nameEntered = ttk.Entry(win, width=12, textvariable=name)
nameEntered.grid(column=0, row=1)

# Adding a Button
action = ttk.Button(win, text="Click Me!", command=clickMe)
action.grid(column=2, row=1)
#action.configure(state='disabled')    # Disable the Button Widget

ttk.Label(win, text="Choose a number:").grid(column=1, row=0)
number = tk.StringVar()
numberChosen = ttk.Combobox(win, width=12, textvariable=number)
numberChosen['values'] = (1, 2, 4, 42, 100)
numberChosen.grid(column=1, row=1)
numberChosen.current(0)

# Using a scrolled Text control
scrolW  = 30
scrolH  =  3
scr = scrolledtext.ScrolledText(win, width=scrolW, height=scrolH, wrap=tk.WORD)
scr.grid(column=0, columnspan=3)

# Place cursor into name Entry
```

```
nameEntered.focus()
#======================
# Start GUI
#======================
win.mainloop()
```

8. Adding a Button than add text to the scrolledtext to the previous example, copy the code, run it and understand what it does:

```
import tkinter as tk
from tkinter import ttk
from tkinter import scrolledtext

# Create instance
win = tk.Tk()

# Add a title
win.title("Python GUI")

# Disable resizing the GUI
#win.resizable(0,0)

# Modify adding a Label
aLabel = ttk.Label(win, text="A Label")
aLabel.grid(column=0, row=0)

#Modified Button Click Function
def clickMe():
   action.configure(text='Hello ' + name.get())

def loadingJsonButtonMethod():
   scr.insert(tk.INSERT,"Can you insert tweet text here from last week ! Apologies I am not here to help you!")

# Changing our Label
ttk.Label(win, text="Enter a name:").grid(column=0, row=0)

# Adding a Textbox Entry widget
name = tk.StringVar()
nameEntered = ttk.Entry(win, width=12, textvariable=name)
nameEntered.grid(column=0, row=1)

# Adding a Button
action = ttk.Button(win, text="Click Me!", command=clickMe)
action.grid(column=2, row=1)
#action.configure(state='disabled')    # Disable the Button Widget

ttk.Label(win, text="Choose a number:").grid(column=1, row=0)
number = tk.StringVar()
numberChosen = ttk.Combobox(win, width=12, textvariable=number)
numberChosen['values'] = (1, 2, 4, 42, 100)
numberChosen.grid(column=1, row=1)
numberChosen.current(0)

# Using a scrolled Text control
scrolW  = 30
scrolH  =  10
```

```
scr = scrolledtext.ScrolledText(win, width=scrolW, height=scrolH, wrap=tk.WORD)
scr.grid(column=0, columnspan=3)

# Adding a Button
loadingJsonButton = ttk.Button(win, text=" Loading A Tweet From JSON",
command=loadingJsonButtonMethod)
loadingJsonButton.grid(column=0, columnspan=3)

# Place cursor into name Entry
nameEntered.focus()
#======================
# Start GUI
#======================
win.mainloop()
```

9. On your own exercise; can you use last week work on “Loading JSON Object” in order to add a tweet text to the scrolledtext, once you click the Button i.e. second Button ? You can work in groups if you want!