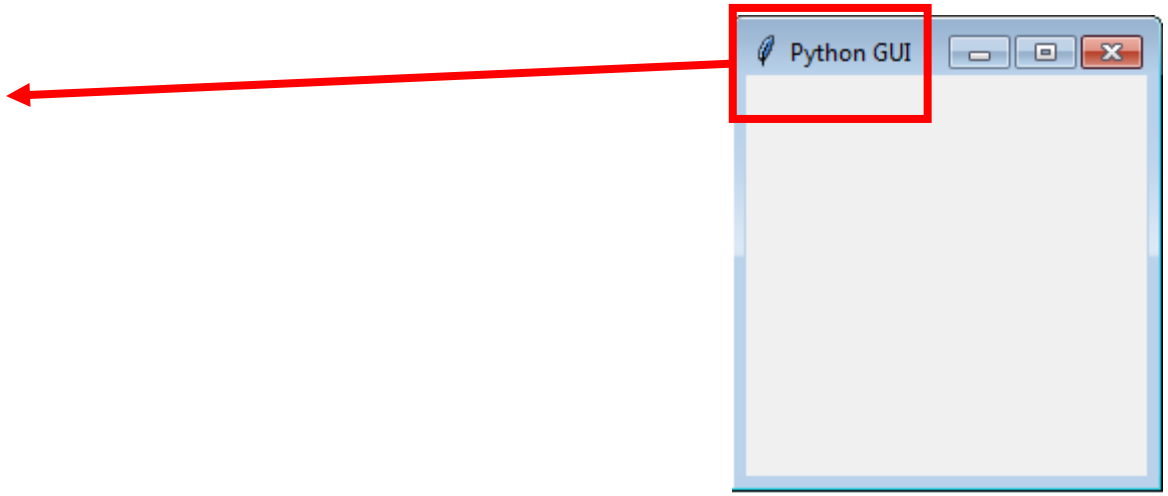
Python GUI Programming

Basic Layout

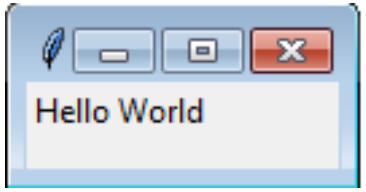
First GUI Application

```
from tkinter import *
win = Tk()
win.title("Python GUI")
```



Adding Label

```
from tkinter import *
win = Tk()
win.title("Python GUI")
a=Label(win,text="Hello World").grid(row=0,column=0)
```



Example One: Label

```
from tkinter import *
win = Tk()
win.title("Python GUI")
a=Label(win,text="Hello World").grid(row=0,column=0)
win.mainloo() #for other IDLE
```

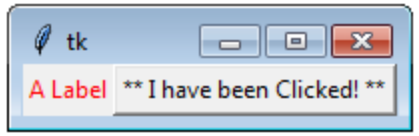
Label 2

```
from tkinter import *
root = Tk()
 Label(root, text="Red Text in Times Font",fg = "red",font =
"Times").pack()
 Label(root,  text="Green Text in Helvetica Font", fg = "light green",
            bg = "dark green",font = "Helvetica 16 bold italic").pack()
Label(root,  text="Blue Text in Verdana bold",fg = "blue",bg = "yellow",
 font = "Verdana 10 bold").pack()
```

Creating Buttons

```
From tkinter import *
a=Tk()
action =Button(a, text="Click Me!")
#, command=clickMe)
action.grid(column=1, row=0)
```

Creating buttons and changing their text property




```
from tkinter import *
a=Tk()
# Modify adding a Label # 1
aLabel =Label(a, text="A Label")
aLabel.grid(column=0, row=0)
def clickMe():
        action.configure(text="** I have been Clicked! **")
        aLabel.configure(foreground='red')

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

Creating new window

```
from tkinter import *
a=Tk()
# Modify adding a Label # 1
aLabel =Label(a, text="A Label")
aLabel.grid(column=0, row=0)
# Button Click Event Callback Function
def clickMe():
        b=Tk()
        aa=Label(b,text="some").pack()

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

Text box widgets

- Textbox widget is called Entry.

```
from tkinter import *
win=Tk()

# Modified Button Click Function
def clickMe():
        action.configure(text='Hello ' + name.get())
# Position Button in second row, second column (zero-based)
# Changing our Label
a=Label(win, text="Enter a name:").grid(column=0, row=0)
action = Button(win,text='Hai', command=clickMe)
action.grid(column=1, row=1)
# Adding a Textbox Entry widget
nameEntered = Entry(win, width=12)
nameEntered.grid(column=0, row=1)
```

Assignment

```
from tkinter import *
swin=Tk()
def clickMe():
        action.configure(text='Hello ' + name.get())

a=Label(win, text="Enter a name:").grid(column=0, row=0)
action = Button(win,text='Hai', command=clickMe)
action.grid(column=1, row=1)
name = StringVar()
nameEntered = Entry(win, width=12, textvariable=name)
nameEntered.grid(column=0, row=1)
```

Combobox

- from tkinter import *
- from tkinter import ttk
- win=Tk()
- number = StringVar()
- numberChosen = ttk.Combobox(win, width=12, textvariable=number)
- numberChosen['values'] = (1, 2, 4, 42, 100)
- numberChosen.pack()
- numberChosen.current(2)

Creating Label Frame

- The LabelFrame widget allows us to design our GUI in an organized fashion
- using the grid layout manager as our main layout design tool, yet by using LabelFrame widgets we get much more control over our GUI design.
- Ex: Several Label

Using padding to add space around Widgets

- The procedural way of adding spacing around widgets is shown padding, and then we will use a loop to achieve the same thing in a much better way.

labelsFrame.grid(column=0, row=7, padx=20, pady=40)

Padx → Horizontal Alignment

Pady → *Vertical Alignment*

Example Program

```
from tkinter import *
from tkinter import ttk
win=Tk()

# Create a container to hold labels
labelsFrame = ttk.LabelFrame(win, text=' Labels in a Frame ')
labelsFrame.grid(column=0, row=7)
# Place labels into the container element
ttk.Label(labelsFrame, text="Create Label1").grid(column=0, row=0,padx=20,pady=20)
ttk.Label(labelsFrame, text="Create Label2").grid(column=1, row=0,padx=20,pady=20)
ttk.Label(labelsFrame, text="Create Label3").grid(column=2, row=0,padx=20,pady=20)
# Place cursor into name Entry
```

Example Program (Assignment1)

```
from tkinter import *
from tkinter import ttk
win=Tk()
# Modified Button Click Function
def clickMe():
        action.configure(text='Hello ' + name.get())

        #action.configure(state='disabled')
# Position Button in second row, second column (zero-based)
# Changing our Label
a=Label(win, text="Enter a name:").grid(column=0, row=0)
action = Button(win,text='Hai', command=clickMe)
action.grid(column=1, row=1)
# Adding a Textbox Entry widget
```

Example Program (Assignment1)

```
name = StringVar()
nameEntered = Entry(win, width=12, textvariable=name)

nameEntered.grid(column=0, row=1)
# Create a container to hold labels
labelsFrame = ttk.LabelFrame(win, text=' Labels in a Frame ') # 1
labelsFrame.grid(column=0, row=7)
# Place labels into the container element # 2
ttk.Label(labelsFrame, text="Create Label1").grid(column=0, row=0)
ttk.Label(labelsFrame, text="Create Label2").grid(column=1, row=0)
ttk.Label(labelsFrame, text="Create Label3").grid(column=2, row=0)
# Place cursor into name Entry
nameEntered.focus()
```