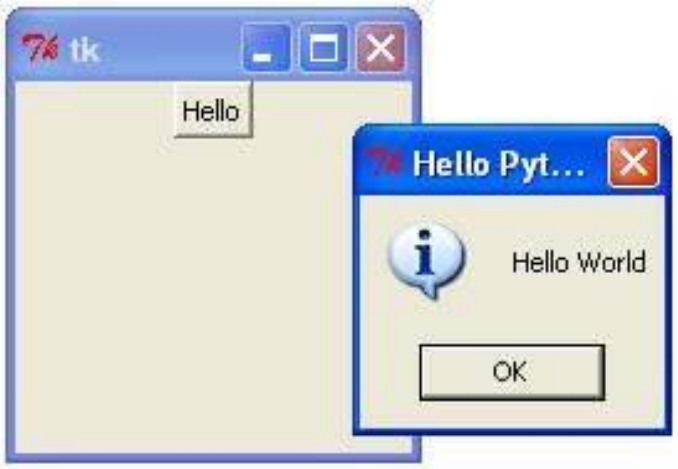
GRAPHICAL USER INTERFACE

PYTHON TKINTER

Tkinter

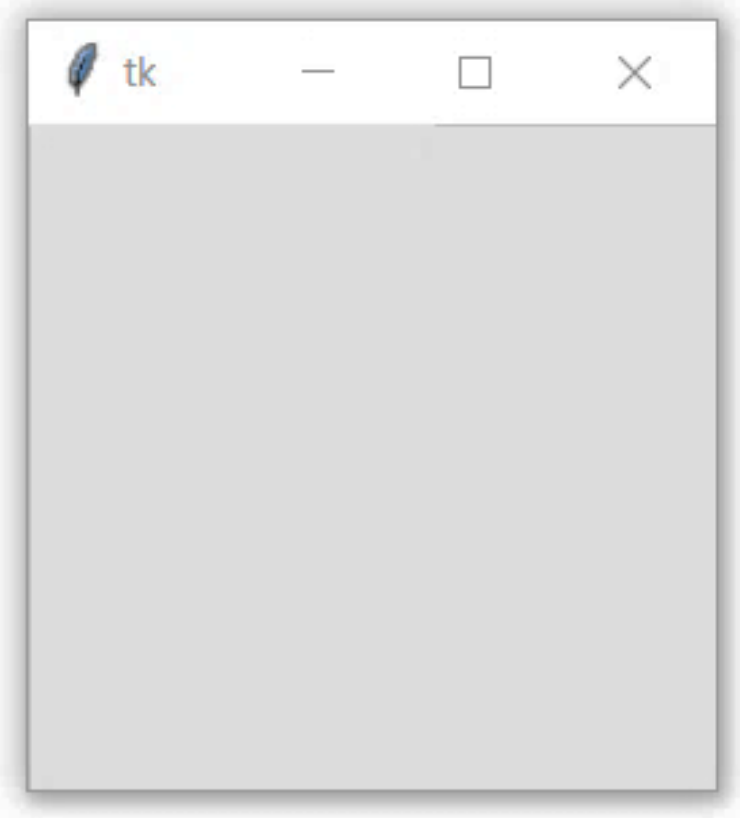
- The Tkinter module is the standard Python interface to the Tk GUI toolkit from Sun Labs.

- Tkinter provides classes allowing the display and positioning and graphical widgets: Frame, Label, Entry, Text, Canvas, Button, Radiobutton, Checkbutton, Scale, Listbox, Scrollbar, OptionMenu, Spinbox, and PanedWindow.



Startup tkinter

```
from tkinter import *      #(1)
root = Tk()                #(2)
root.mainloop()            #(3)
```



Events: Keyboard

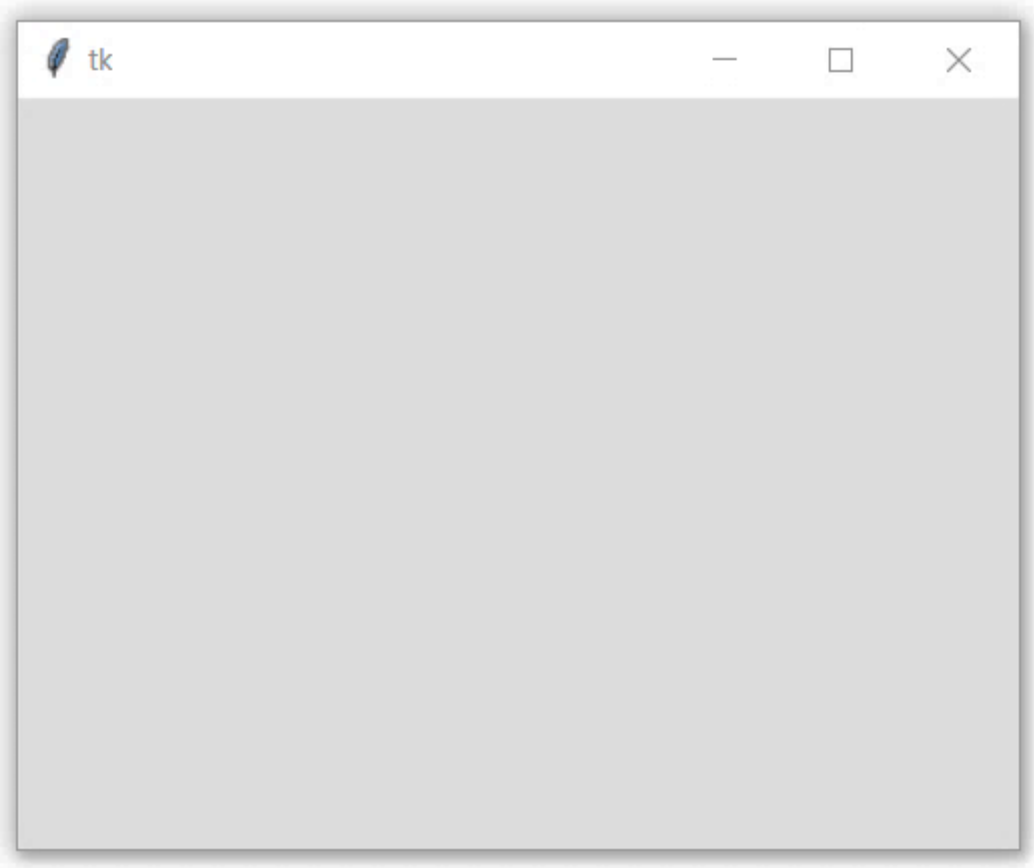
```
from tkinter import *
root = Tk()
def key(event):
    print("pressed", repr(event.char))
frame = Frame(root, width=100, height=100)
frame.bind("<Key>", key)
frame.focus_set()
frame.pack()
root.mainloop()
```

Event: Mouse

```
from tkinter import *
root = Tk()
def callback(event):
    print("clicked at", event.x, event.y)
frame = Frame(root, width=500, height=500)
frame.bind("<Button-1>", callback)
frame.focus_set()
frame.pack()
root.mainloop()
```

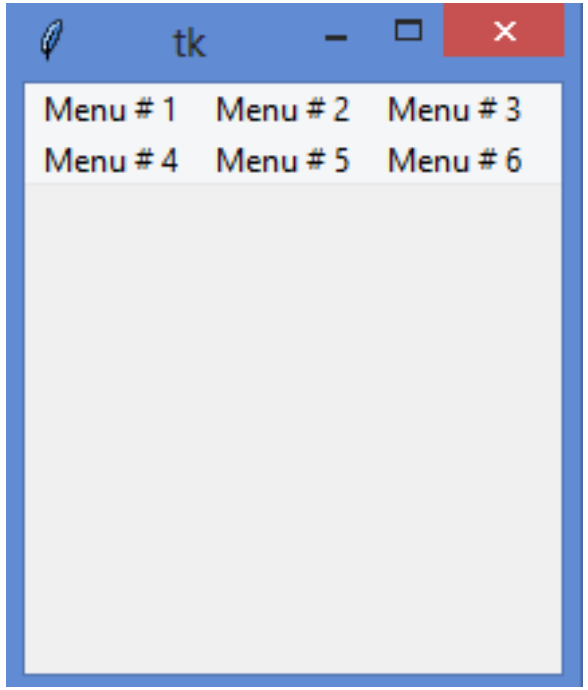
Widget: Frame

```
from tkinter import *
master=Tk()
master.geometry("400x300")
frame1=Frame(master)
master.mainloop()
```



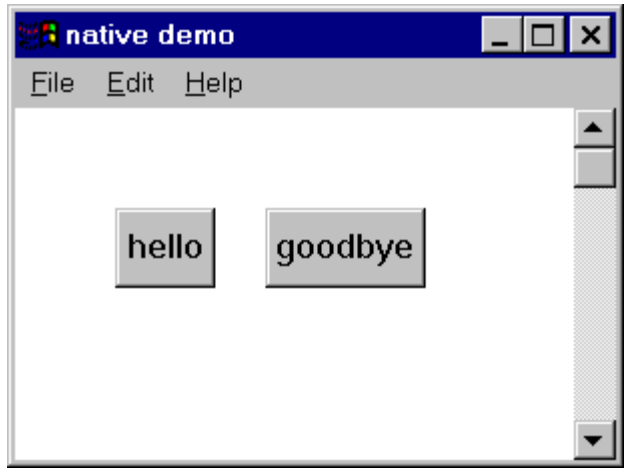
Widget: Menubar

```
from tkinter import*
master=Tk()
menu=Menu(master)
menu.add_command(label="Menu # 1")
menu.add_command(label="Menu # 2")
menu.add_command(label="Menu # 3")
master.config(m=menu)
```



Widget: Button

```
from tkinter import*
import tkinter.messagebox
from tkinter import messagebox
master = Tk()
master.title("Button Widget")
def Clicked():
    s = "Button Clicked"
    messagebox.showinfo("Button Info",s)
button = Button(master, text = "Click here", fg="blue", command = Clicked)
button.pack(side=BOTTOM)
master.mainloop()
```

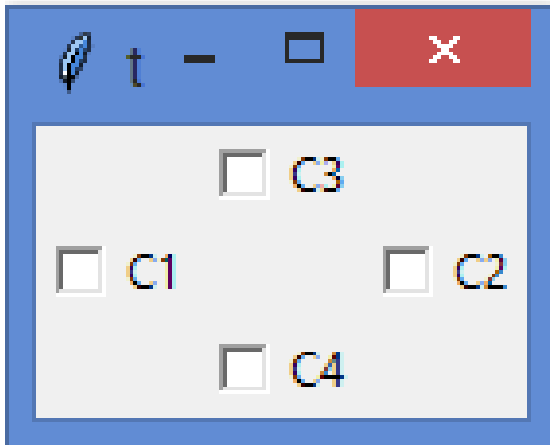


Widget: Messagebox

```
from tkinter import *
import tkinter.messagebox
from tkinter import messagebox
root = Tk()
fr1 = Frame(root)
def info():
    messagebox.showinfo("FYI", "This is FYI")
Button(fr1, text='info', command=info).pack(opt))
fr1.pack()
root.mainloop()
```

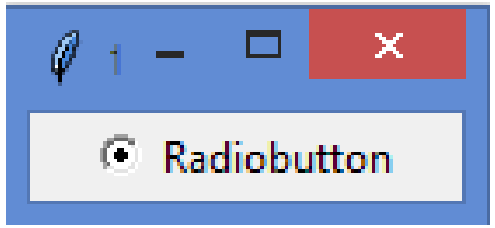
Widget: Checkbox

```
from tkinter import*
master=Tk()
labelframe=LabelFrame(master, text="Your age")
labelframe.pack(side=LEFT)
checkbutton1=Checkbutton(labelframe, text=" 10+")
checkbutton1.pack()
checkbutton2=Checkbutton(labelframe, text=" 20+")
checkbutton2.pack()
checkbutton3=Checkbutton(labelframe, text=" 30+")
checkbutton3.pack()
checkbutton3=Checkbutton(labelframe, text=" 40+")
checkbutton3.pack()
master.mainloop()
```



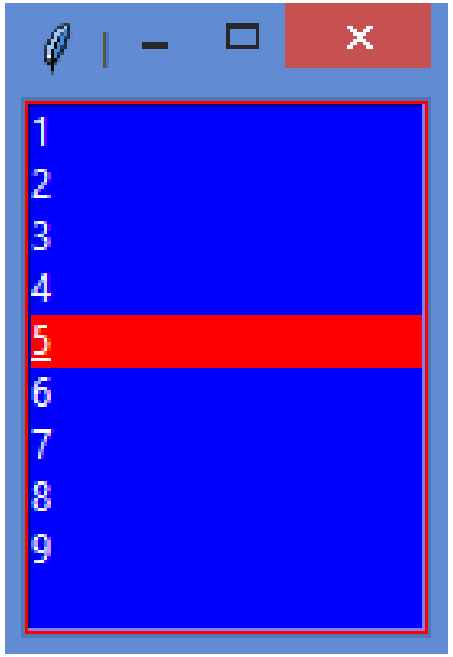
Widget: Radiobutton

```
from tkinter import*
import tkinter
master=Tk()
rb1=tkinter.Radiobutton(master, text="Radio1").pack()
rb1=tkinter.Radiobutton(master, text="Radio2").pack()
rb1=tkinter.Radiobutton(master, text="Radio3").pack()
master.mainloop()
```



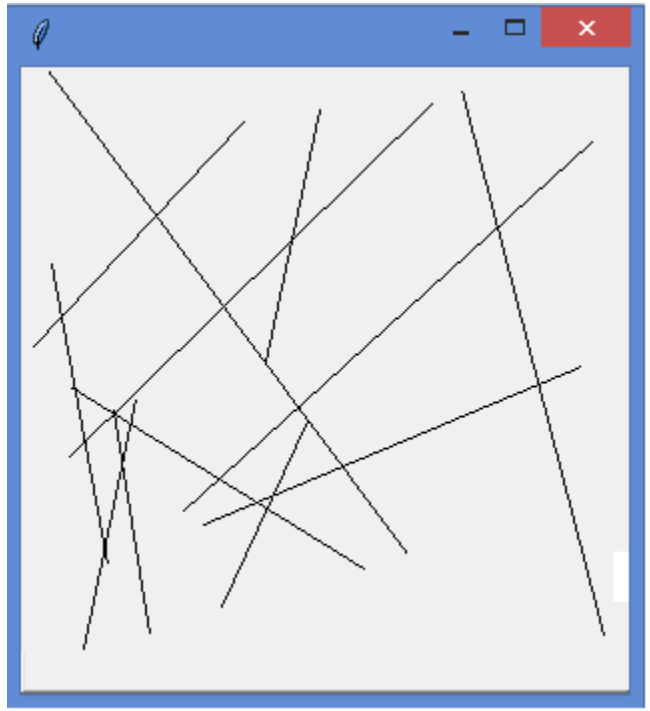
Widget: Listbox

```
from tkinter import*
master=Tk()
master.title("Listbox")
listbox=Listbox(master, highlightcolor="yellow")
listbox.grid(row=1, column=1)
for x in range(1, 10):
    listbox.insert(END, x)
master.mainloop()
```



Widget: Canvas

```
from tkinter import *
master = Tk()
master.title("Draw Line")
x1 = 0
y1 = 0
x2 = 300
y2 = 300
def line():
    canvas.create_line(x1, y1, x2, y2)
canvas = Canvas(master, width=300, height=300)
canvas.pack(side=TOP)
button=Button(master, text="Click", command=line).pack(fill=BOTH)
master.mainloop()
```



Widget: Circle

```
import tkinter as tk
root = tk.Tk()
canvas = tk.Canvas(root, width=200, height=200)
canvas.grid()
def DrawCircle(self, x, y, r) :
    return self.create_oval(x-r, y-r, x+r, y+r)
tk.Canvas.create_circle = DrawCircle
canvas.create_circle(100, 120, 50)
root.wm_title("Circle")
root.mainloop()
```