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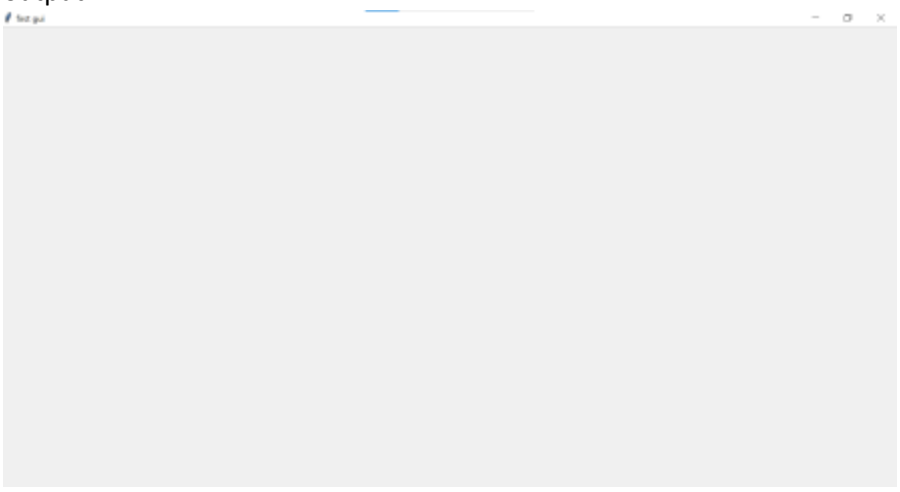
TKINTER HANDS ON

1. Creating the basic GUI window:

```
import tkinter
window = tkinter.Tk() #creating the basic window
window.title("first gui")
window.mainloop()
```

output:



Using default centering :

```
import tkinter as tk
window = tk.Tk()

w = tk.Label(window , text ="Hello world! First block", bg="pink", fg = "white
")
w.pack()
w = tk.Label(window , text ="Hello world! Second block", bg="yellow", fg = "wh
ite")
w.pack()
w = tk.Label(window , text ="Hello world! Third block", bg="orange", fg = "whi
te")
w.pack()
window.mainloop()
```

output:

2. Using fill option with function pack()

```
import tkinter as tk
window = tk.Tk()

w = tk.Label(window , text ="Hello world! First block", bg="pink", fg = "white
")
w.pack(fill=tk.X)
w = tk.Label(window , text ="Hello world! Second block", bg="yellow", fg = "wh
ite")
w.pack(fill=tk.X)
w = tk.Label(window , text ="Hello world! Third block", bg="orange", fg = "whi
te")
w.pack(fill=tk.X)
window.mainloop()
```

output:

3.Using side option

```
import tkinter as tk
window = tk.Tk()

w = tk.Label(window , text ="Hello world! First block", bg="pink", fg = "white
")
w.pack(padx=10, pady=15, side=tk.RIGHT)
w = tk.Label(window , text ="Hello world! Second block", bg="yellow", fg = "wh
ite")
w.pack(padx=10, pady=15, side=tk.RIGHT)
```

```
w = tk.Label(window , text ="Hello world! Third block", bg="orange", fg = "whi
te")
w.pack(padx=10, pady=15, side=tk.RIGHT)
window.mainloop()
```

Output

5 creating and displaying grid

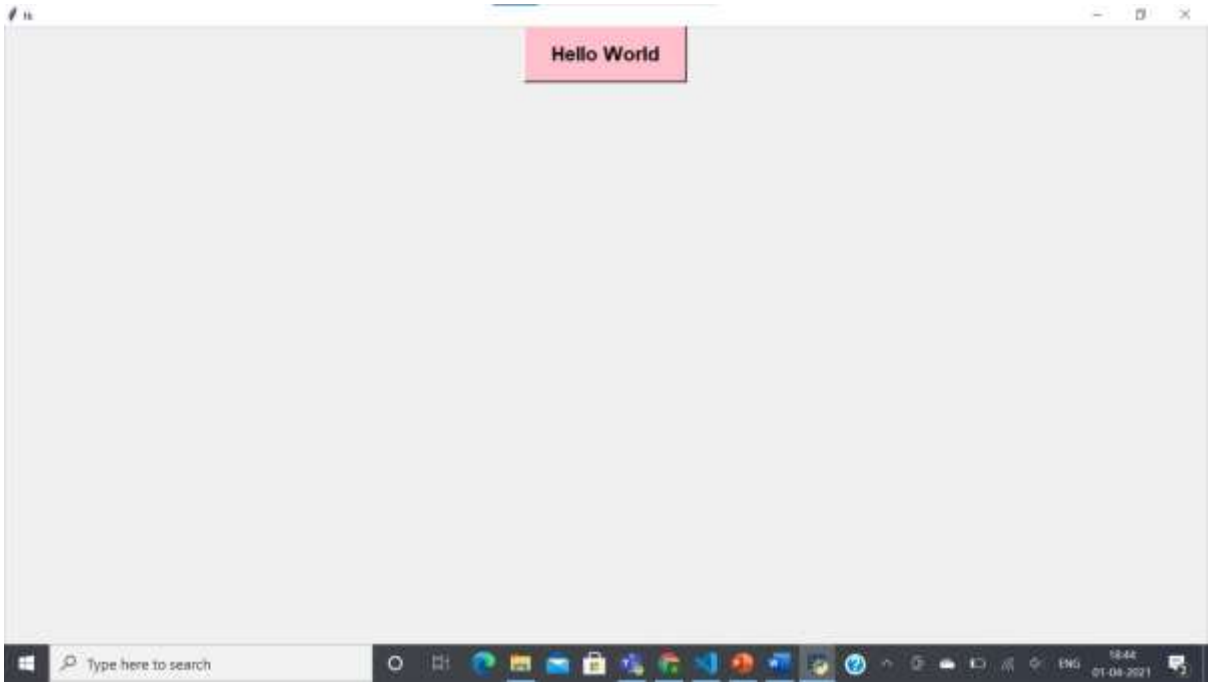
```
      import tkinter as tk

window = tk.Tk()

tk.Label(window, text="showing colors", bg="white",width=50).grid(row=0,column
=0)

r=1
colors=['pink','orange','blue','yellow','red','green','purple']
for c in colors:
    tk.Label(window,text=c,relief=tk.RIDGE, width=20).grid(row=r,column=0)
    tk.Entry(window,bg =c, relief=tk.SUNKEN, width=30).grid(row=r,column=1)
    r=r+1
tk.mainloop()
```

output:

Creating a Tkinter button that initially has bg = pink , on clicking it's activebackground changes to orange , text on button =HelloWorld. We have used the command attribute to call a function that displays how many times the button was clicked.

```
import tkinter as tk
import tkinter.font as font
window = tk.Tk()
times=1
def buttonaction():
    global times
    print("You have clicked on a first Tkinter Button ",times, " times")
    times=times+1
buttonFont = font.Font(family='Helvetica', size=16, weight='bold')
button = tk.Button(window, activebackground="orange",command=buttonaction, bg
="pink",font=buttonFont,text="Hello World", padx=20, pady=10)
button.pack()
tk.mainloop()
```

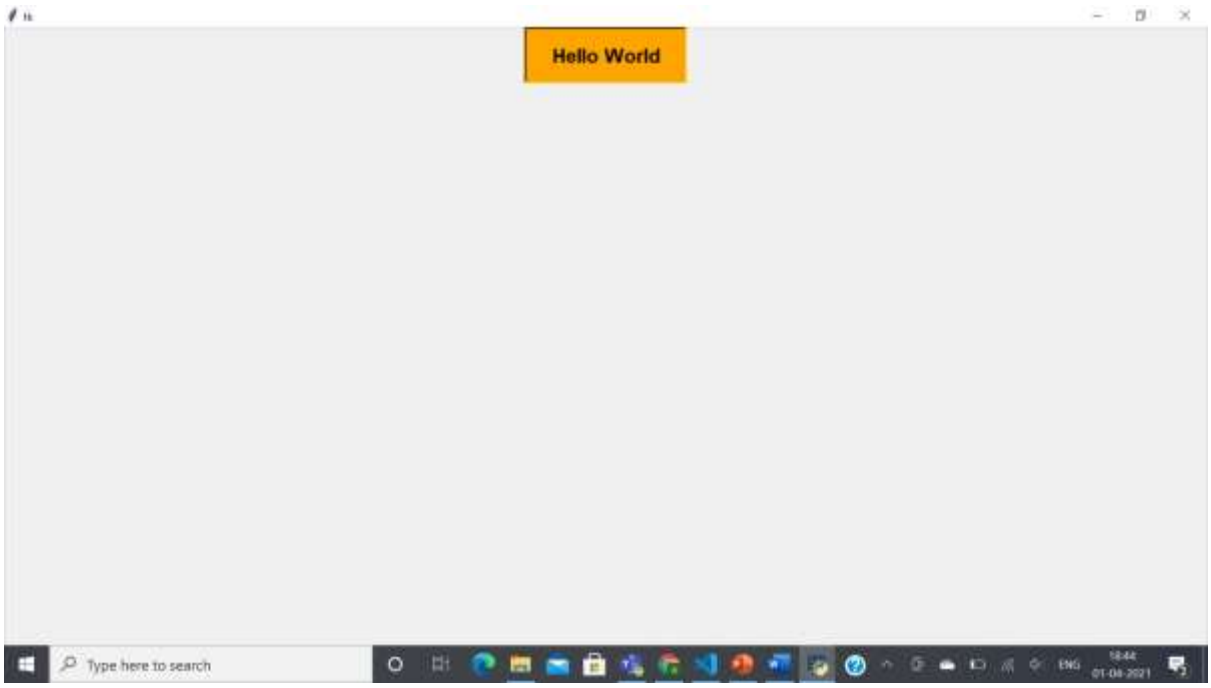
Before Clicking:



On Clicking 10 times output of function:

```
helloworld.py
You have clicked on a first Tkinter Button  1  times
You have clicked on a first Tkinter Button  2  times
You have clicked on a first Tkinter Button  3  times
You have clicked on a first Tkinter Button  4  times
You have clicked on a first Tkinter Button  5  times
You have clicked on a first Tkinter Button  6  times
You have clicked on a first Tkinter Button  7  times
You have clicked on a first Tkinter Button  8  times
You have clicked on a first Tkinter Button  9  times
You have clicked on a first Tkinter Button  10  times
```

On clicking (color of button changes to orange)

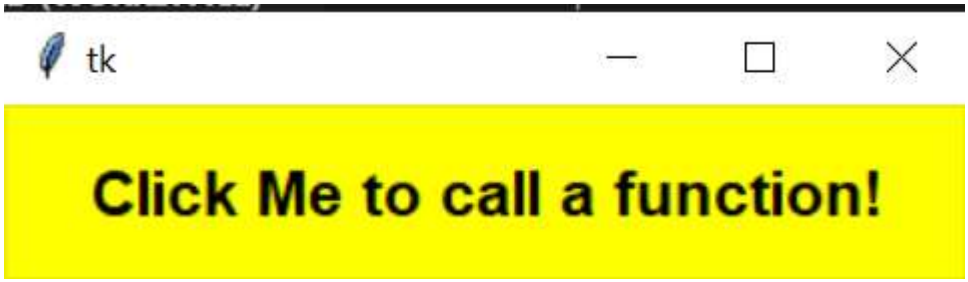


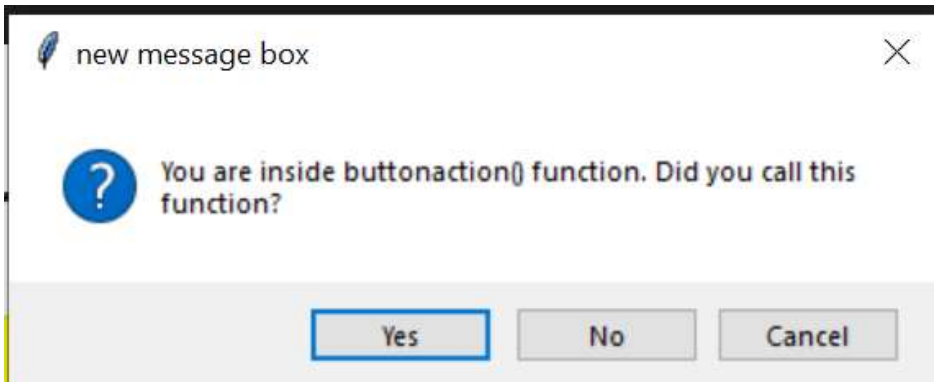
Using messagebox with button:

```
import tkinter as tk
import tkinter.font as font
from tkinter import messagebox
window = tk.Tk()

def buttonaction():
    tk.messagebox.askyesnocancel("new message box","You are inside buttonactio
n() function. Did you call this function?")

buttonFont = font.Font(family='Helvetica', size=16, weight='bold')
```

```
button = tk.Button(window, activebackground="purple",command=buttonaction, bg
="yellow",font=buttonFont,text="Click Me to call a function!", padx=20, pady=1
0)
button.pack()
tk.mainloop()
```

Output:

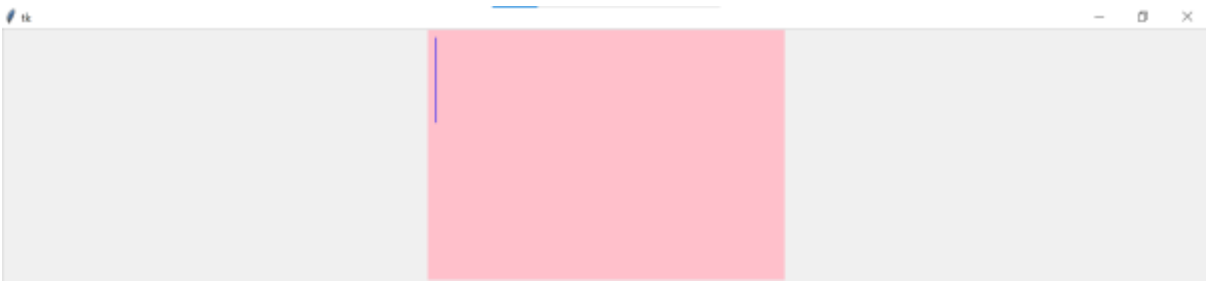




6. Creating a blue line on a pink canvas

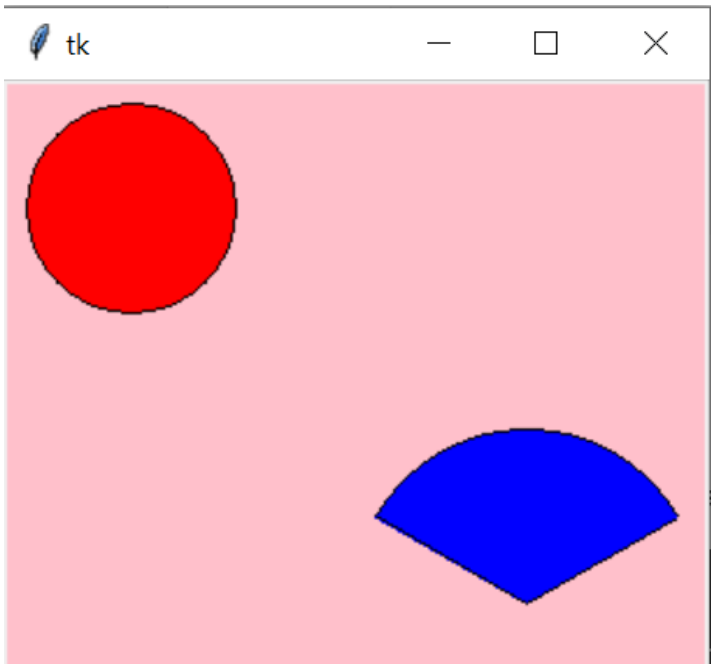
```
from tkinter import *

root = Tk()

window = Canvas(root,  bg ="pink")

window.pack()
line_height = 20
line_width = 10
window.create_line(10,10,10,100,fill="blue")
mainloop()
```

Output:



Creating oval and arc with Tkinter :

```
import tkinter

parent = tkinter.Tk()


canvas = tkinter.Canvas(parent, height=250,width=300, bg="pink")
canvas.create_oval(10, 10, 100, 100, fill="red")

canvas.create_arc(150,150, 300,300, start=30, extent =120, fill="blue")
canvas.pack()
parent.mainloop()
```

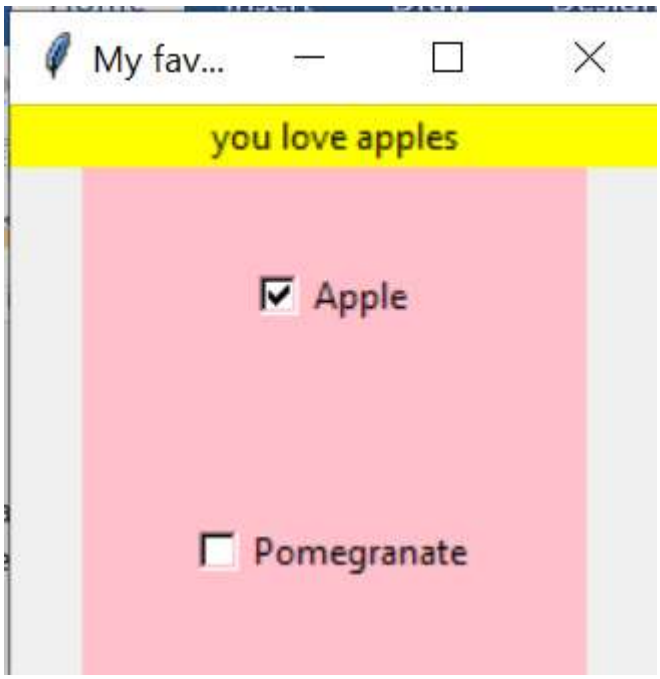


Using Entry:

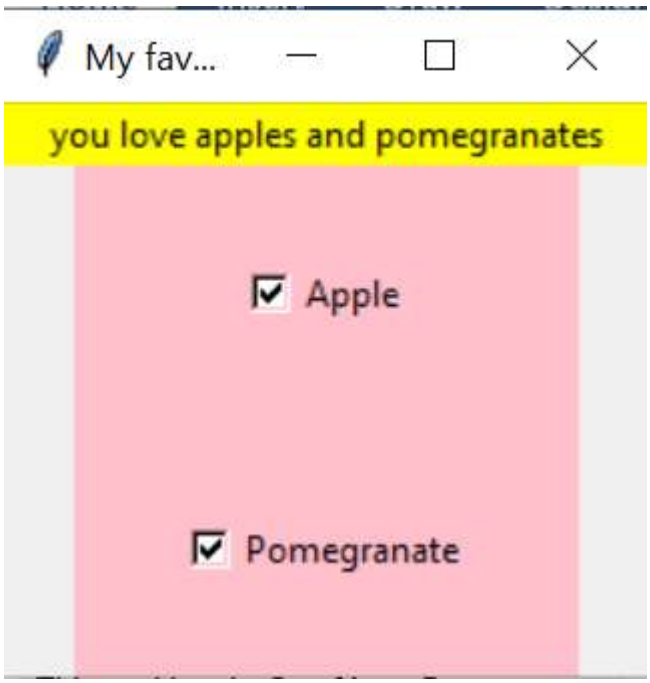
Using Checkbox to find which is the users favorite fruit:

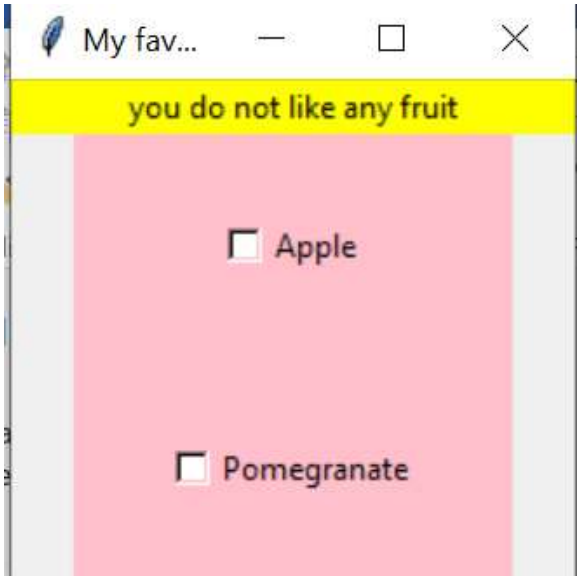
```
import tkinter as tk
from tkinter import *

parent = tk.Tk()
parent.title("My favorite fruits")
l= tk.Label(parent, background="yellow", text="empty", width="30")
l.pack()
w = tk.Label(parent , text ="Select your favorite fruits!", bg="pink", fg = "w
hite")

def print_choice():

    if checkvar1.get()==0 and checkvar2.get()==1:
        l.config(text="You love pomegranates")
    elif checkvar2.get()==0 and checkvar1.get()==1:
        l.config(text="you love apples")
    elif checkvar2.get()==1 and checkvar1.get()==1:
        l.config(text="you love apples and pomegranates")
    else:
        l.config(text="you do not like any fruit")



checkvar1= tk.IntVar()
checkvar2 = tk.IntVar()
checkvar3 = tk.IntVar()


c1 = tk.Checkbutton(parent, text ="Apple", variable = checkvar1, onvalue=1, of
fvalue=0,height = 5, width =20, bg="pink", activebackground="yellow", activefo
reground="orange", command=print_choice)
c1.pack()
c2 = tk.Checkbutton(parent, text ="Pomegranate", variable = checkvar2, onvalue
=1, offvalue=0,height = 5, width =20, bg="pink", command=print_choice)
c2.pack()







parent.mainloop()
```

Output:


My fav...
you love apples
Apple
Pomegranate


My fav...
You love pomegranates
Apple
Pomegranate






```
      import tkinter
from tkinter import *


root = Tk()
checkvar = IntVar()
```

```
l = Label(root, text="Your favorite fruit")
l.pack()

def selected_choice():
    selected = "Your favorite fruit is "+ str(checkvar.get())
    l.config(text=selected)


fruit1 = Radiobutton(root, text="Apple", command=selected_choice,variable=chec
kvar,value=1 )
fruit1.pack()

fruit2= Radiobutton(root, text="Pomegranate", command=selected_choice,variable
=checkvar,value=2 )
fruit2.pack()
fruit3= Radiobutton(root, text="Pear", command=selected_choice,variable=checkv
ar,value=3 )
fruit3.pack()

root.mainloop()
```

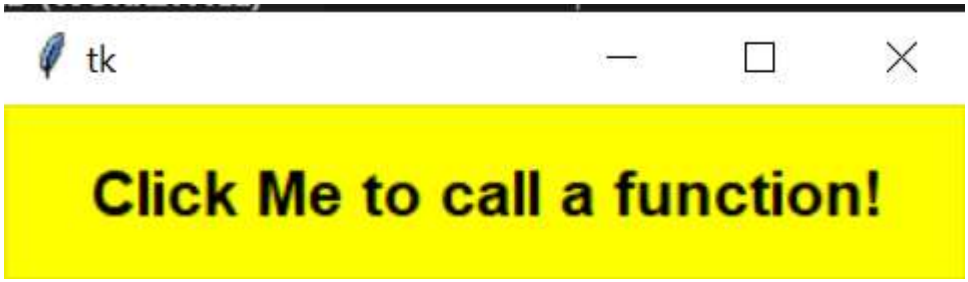
Using messagebox (As demonstrated earlier):

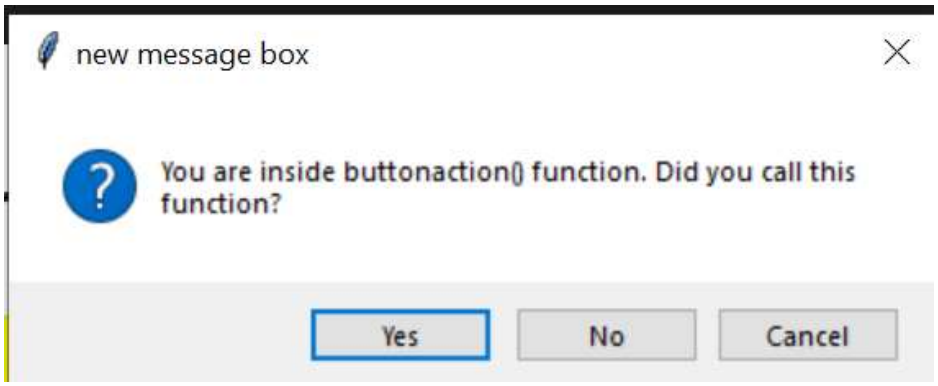
Using messagebox with button:

```
import tkinter as tk
import tkinter.font as font
from tkinter import messagebox
window = tk.Tk()

def buttonaction():
    tk.messagebox.askyesnocancel("new message box","You are inside buttonactio
n() function. Did you call this function?")

buttonFont = font.Font(family='Helvetica', size=16, weight='bold')
```

```
button = tk.Button(window, activebackground="purple",command=buttonaction, bg
="yellow",font=buttonFont,text="Click Me to call a function!", padx=20, pady=1
0)
button.pack()
tk.mainloop()
```

Output:





Frame :

```
import tkinter
from tkinter import *


root = Tk()
frame = Frame(root)
frame.pack()
frame1= Frame(root)
frame1.pack(side=TOP)

firstbutton = Button(frame1, text="Right box 1", fg="red")
firstbutton.pack(side=RIGHT)

secondbutton = Button(frame1, text="Right box 2", fg="blue")
secondbutton.pack(side=RIGHT)

thirdbutton = Button(frame1, text="Right box 3", fg="brown")
```

```
thirdbutton.pack(side=RIGHT)

bottombutton = Button(frame, text="Top box ", fg="pink")
bottombutton.pack(side=BOTTOM)

root.mainloop()
```

Output:

Using Listbox:

```
import tkinter
from tkinter import *


top = Tk()
listbox = Listbox(top,height=30, width=15,bg="yellow",fg="pink",font="Helvetic
a")
top.geometry("250x250")

label = Label(top,text="My favourite fruits" , bg="pink",fg="yellow")

listbox.insert(1, "pomegranate")
listbox.insert(2,"apple")
listbox.insert(3,"banana")
listbox.insert(4,"papaya")
listbox.insert(5,"mango")



label.pack()
listbox.pack()
top.mainloop()
```

Output:

Creating and using menubar:

```
import tkinter
from tkinter import *


top = Tk()
menubar = Menu(top) #creating a menubar object
fruits= Menu(menubar , tearoff=0) #creating a file object inside amenubar obje
ct
fruits.add_command(label="apple")
fruits.add_command(label="pomegranate") #adding menu items to the fruist menu
fruits.add_command(label="papaya")
fruits.add_command(label="mango")
fruits.add_command(label="banana")
fruits.add_separator()
fruits.add_command(label="exit", command=top.quit)

menubar.add_cascade(label="fruits",menu=fruits) #adding fruit objet to the men
ubar
```

```
vegetables = Menu(menubar,tearoff=0)
vegetables.add_command(label="tomato")
vegetables.add_command(label="potato")
vegetables.add_command(label="cabbage")
vegetables.add_command(label="lady finger")
fruits.add_separator()
vegetables.add_command(label="exit", command=top.quit)

menubar.add_cascade(label="vegetables",menu=vegetables) #adding fruit objet to
 the menubar

top.config(menu=menubar)
top.mainloop()
```