Bahria University, Islamabad

Department of Software Engineering

Artificial Intelligence Lab

(Fall-2021)

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Lab Journal: 13

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Task No:	Task Wise Marks		Documentation Marks		Total Marks (20)
	Assigned	Obtained	Assigned	Obtained	
1	15		5		

Comments:

Signature

LAB

Lab No: 13

Lab 13: Implementing Tkinter (GUI Basics)

Introduction

Widgets are the bread and butter of the Python GUI framework Tkinter. They are the elements through which users interact with your program. Each widget in Tkinter is defined by a class. Here are some of the widgets available:

Button widgets are used to display clickable buttons. They can be configured to call a function whenever they're clicked. You'll cover how to call functions from button clicks in the next section. For now, look at how to create and style a Button.

There are many similarities between Button and Label widgets. In many ways, a Button is just a Label that you can click! The same keyword arguments you use to create and style a Label will work with Button widgets. For example, the following code creates a Button with a blue background and yellow text. It also sets the width and height to 25 and 5 text units, respectively:

Tools Used

Tool used to perform this task is **PyCharm Community Addition**

Task

Create a calculate GUI application using Tkinter.

```
from tkinter import*

win=Tk()
win.title("Calculator By Iqrar ")
win.geometry('315x510')
win.configure(background='grey')

def  btnclick(num):
    global operator
    operator=operator + str(num)
    _input.set(operator)

def clear():
    global operator
    operator=""
    _input.set("")

def answer():
    global operator
    ans=str(eval(operator))
    _input.set(ans)
    operator = ""

label=Label(win,font=('ariel'
,20,'bold'),text='Calculator',bg='grey',fg='black')
label.grid(columnspan=4)

_input=StringVar()
operator=""

display = Entry(win,font=('ariel' ,20,'bold'),
textvariable=_input ,insertwidth=7 , bd=5
,bg="white",justify='right')
display.grid(columnspan=4)

#------------------Row-1-----------------------------------
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b7=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="7",bg="grey",
command=lambda: btnclick(7) )
b7.grid(row=2,column=0)

b8=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="8",bg="grey",
command=lambda: btnclick(8) )
```

```
b8.grid(row=2,column=1)

b9=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="9",bg="grey",
command=lambda: btnclick(9) )
b9.grid(row=2,column=2)

Add=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="+",bg="grey",
command=lambda: btnclick("+") )
Add.grid(row=2,column=3)

#---------------Row-2-----------------------------------------
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b4=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="4",bg="grey",
command=lambda: btnclick(4) )
b4.grid(row=3,column=0)

b5=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="5",bg="grey",
command=lambda: btnclick(5) )
b5.grid(row=3,column=1)

b6=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="6",bg="grey",
command=lambda: btnclick(6) )
b6.grid(row=3,column=2)

Sub=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="-",bg="grey",
command=lambda: btnclick("-") )
Sub.grid(row=3,column=3)

#-------------Row-3-----------------------------------------
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b1=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="1",bg="grey",
command=lambda: btnclick(1) )
b1.grid(row=4,column=0)

b2=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="2",bg="grey",
command=lambda: btnclick(2) )
b2.grid(row=4,column=1)

b3=Button(win,padx=16,pady=16,bd=4, fg="black",
```

```
font=('ariel', 20 ,'bold'),text="3",bg="grey",
command=lambda: btnclick(3) )
b3.grid(row=4,column=2)

mul=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="*",bg="grey",
command=lambda: btnclick("*") )
mul.grid(row=4,column=3)

#-----------------Row-4-----------------------------------
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b0=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="0",bg="grey",
command=lambda: btnclick(0) )
b0.grid(row=5,column=0)

bc=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="c",bg="grey", command=clear)
bc.grid(row=5,column=1)

Decimal=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text=".",bg="grey",
command=lambda: btnclick(".") )
Decimal.grid(row=5,column=2)

Div=Button(win,padx=16,pady=16,bd=4, fg="black",
font=('ariel', 20 ,'bold'),text="/",bg="grey",
command=lambda: btnclick("/") )
Div.grid(row=5,column=3)

#-----------------Row-6-----------------------------------
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bequal=Button(win,padx=16,pady=16,bd=4,width = 16,
fg="black", font=('ariel', 20
,'bold'),text="=",bg="grey",command=answer)
bequal.grid(columnspan=4)

win.mainloop()
```
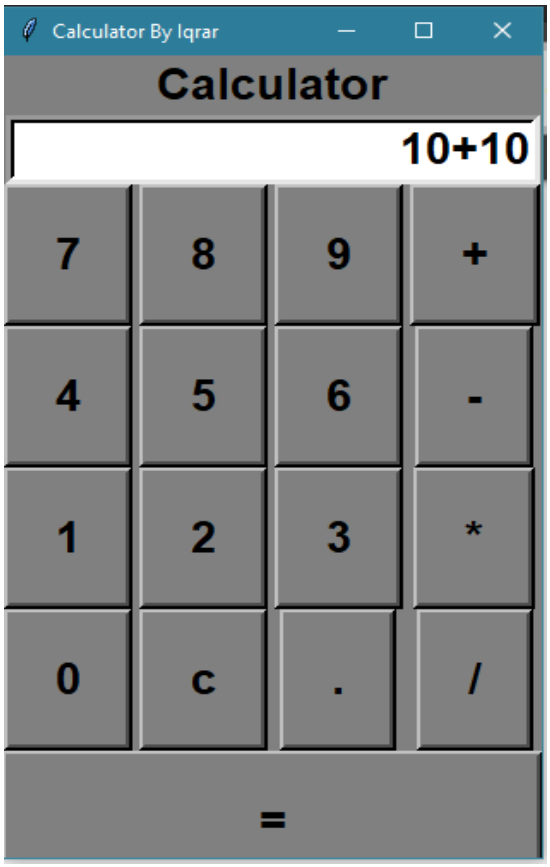

Output:



Conclusion

I completed the tasks given to us and pasted output above.