

Name: Manav Shah  
Roll No: 231070902  
Second Year CS  
Subject: **Programming Lab1**

## **Experiment No. 6**

**AIM:** To create a calculator in python using Tkinter

### **THEORY :**

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

Python offers multiple options for developing GUI (Graphical User Interface). Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications. Creating a GUI using tkinter is an easy task.

### **CODE 1:**

To create a calculator in python using Tkinter

```
from tkinter import *
```

```
win = Tk()
```

```
win.title("Tkinter Calculator")
```

```
win.resizable(False, False)
```

```
def button_press(num) :
```

```
    global exp
```

```
    exp= input_text.get()
```

```
    exp= str(exp) + str(num)
```

```
    input_text.set(exp)
```

```
def button_oper(opr):  
    global exp  
    exp = input_text.get()  
    exp= str(exp) + str(opr)  
    input_text.set(exp)  
    global oper  
    oper = opr
```

```
def clr_scr():  
    global exp  
    input_text.set("")  
    exp = ""
```

```
def equal(event):  
    try:  
        global display  
        global oper  
        global exp  
        exp = input_text.get()  
        input_text.set("")  
        result = float(eval(exp))  
        exp = result  
        display.insert(0, result)  
        input_text.set(result)  
    except Exception as e:  
        input_text.set(e)
```

```
display_frame = LabelFrame(win, text="Tkinter Calculator", relief=SUNKEN,
```

```

padx=2, pady=2)

display_frame.grid(row=0, column=0, columnspan=4, padx=2, pady=4)

input_text = StringVar()

display = Entry(display_frame, font=('arial', 18, 'bold'),
textvariable=input_text, width=22, bg="#eee", bd=0, justify=RIGHT)
display.pack(ipady= 12)


button_1 = Button(win, padx=30, pady=30, text="1", bg="LemonChiffon2",
command=lambda: button_press(1))
button_2 = Button(win, padx=30, pady=30, text="2", bg="LemonChiffon2",
command=lambda: button_press(2))
button_3 = Button(win, padx=30, pady=30, text="3", bg="LemonChiffon2",
command=lambda: button_press(3))
button_4 = Button(win, padx=30, pady=30, text="4", bg="LemonChiffon2",
command=lambda: button_press(4))
button_5 = Button(win, padx=30, pady=30, text="5", bg="LemonChiffon2",
command=lambda: button_press(5))
button_6 = Button(win, padx=30, pady=30, text="6", bg="LemonChiffon2",
command=lambda: button_press(6))
button_7 = Button(win, padx=30, pady=30, text="7", bg="LemonChiffon2",
command=lambda: button_press(7))
button_8 = Button(win, padx=30, pady=30, text="8", bg="LemonChiffon2",
command=lambda: button_press(8))
button_9 = Button(win, padx=30, pady=30, text="9", bg="LemonChiffon2",
command=lambda: button_press(9))
button_0 = Button(win, padx=30, pady=30, text="0", bg="LemonChiffon2",
command=lambda: button_press(0))
button_add = Button(win, padx=30, pady=30, text="+", bg="light pink",
command=lambda: button_oper("+"))
button_sub = Button(win, padx=30, pady=30, text="- ", bg="Peachpuff3",

```

```
command=lambda: button_oper("-"))

button_div = Button(win, padx=30, pady=30, text="/ ", bg="PaleTurquoise3",
command=lambda: button_oper("/"))

button_mul = Button(win, padx=30, pady=30, text="* ", bg="paleGreen3",
command=lambda: button_oper("*"))

button_or = Button(win, padx=30, pady=30,width=11, text="( ",
bg="paleGreen3", command=lambda: button_oper("("))

button_cr = Button(win, padx=30, pady=30, text=") ", bg="paleGreen3",
command=lambda: button_oper(")"))

button_equal = Button(win, padx=30, pady=30, text="=", bg="sienna1",
command=lambda: equal(""))

button_clear = Button(win, padx=30, pady=30, text="C", bg="khaki3",
command=clr_scr)

button_dec = Button(win, padx=30, pady=30, text=".", bg="khaki3",
command=lambda: button_press("."))


button_7.grid(row=1, column=0)
button_8.grid(row=1, column=1)
button_9.grid(row=1, column=2)
button_add.grid(row=1, column=3)


button_4.grid(row=2, column=0)
button_5.grid(row=2, column=1)
button_6.grid(row=2, column=2)
button_sub.grid(row=2, column=3)


button_1.grid(row=3, column=0)
button_2.grid(row=3, column=1)
button_3.grid(row=3, column=2)
button_div.grid(row=3, column=3)


button_equal.grid(row=4, column=0)
button_clear.grid(row=4, column=1)
button_dec.grid(row=4, column=2)
```

```
button_mul.grid(row=4, column=3)

button_or.grid(row=5,column=0,columnspan=2)
button_cr.grid(row=5,column=2)
button_0.grid(row=5,column=3)


win.bind("<Return>", equal)


win.mainloop()
```

## OUTPUT





**CONCLUSION :** In this experiment, we learnt about to create GUI in python using Tkinter. We created a calculator in python wherein a user can enter any arithmetic expression ,edit them as well as update them and he will get the desired result of the expression in output.