**Experiment No. 08**

**Aim: Creating GUI with python containing widgets such as labels, textbox, radio, checkboxes and custom dialog boxes.**

**Code:**

from tkinter import \*

win = Tk()

win.geometry("312x324")

win.resizable(0, 0)

win.title("Calculator")

def btn\_click(item):

    global expression

    expression = expression + str(item)

    input\_text.set(expression)

def bt\_clear():

    global expression

    expression = ""

    input\_text.set("")

def bt\_equal():

    global expression

    result = str(eval(expression))

    input\_text.set(result)

    expression = ""

expression = ""

input\_text = StringVar()

input\_frame = Frame(win, width=312, height=50, bd=0, highlightbackground="black", highlightcolor="black", highlightthickness=2)

input\_frame.pack(side=TOP)

input\_field = Entry(input\_frame, font=('arial', 18, 'bold'), textvariable=input\_text, width=50, bg="#eee", bd=0, justify=RIGHT)

input\_field.grid(row=0, column=0)

input\_field.pack(ipady=10)

btns\_frame = Frame(win, width=312, height=272.5, bg="grey")

btns\_frame.pack()

clear = Button(btns\_frame, text = "C", fg = "black", width = 32, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: bt\_clear()).grid(row = 0, column = 0, columnspan = 3, padx = 1, pady = 1)

divide = Button(btns\_frame, text = "/", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: btn\_click("/")).grid(row = 0, column = 3, padx = 1, pady = 1)

seven = Button(btns\_frame, text = "7", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(7)).grid(row = 1, column = 0, padx = 1, pady = 1)

eight = Button(btns\_frame, text = "8", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(8)).grid(row = 1, column = 1, padx = 1, pady = 1)

nine = Button(btns\_frame, text = "9", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(9)).grid(row = 1, column = 2, padx = 1, pady = 1)

multiply = Button(btns\_frame, text = "\*", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: btn\_click("\*")).grid(row = 1, column = 3, padx = 1, pady = 1)

four = Button(btns\_frame, text = "4", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(4)).grid(row = 2, column = 0, padx = 1, pady = 1)

five = Button(btns\_frame, text = "5", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(5)).grid(row = 2, column = 1, padx = 1, pady = 1)

six = Button(btns\_frame, text = "6", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(6)).grid(row = 2, column = 2, padx = 1, pady = 1)

minus = Button(btns\_frame, text = "-", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: btn\_click("-")).grid(row = 2, column = 3, padx = 1, pady = 1)

one = Button(btns\_frame, text = "1", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(1)).grid(row = 3, column = 0, padx = 1, pady = 1)

two = Button(btns\_frame, text = "2", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(2)).grid(row = 3, column = 1, padx = 1, pady = 1)

three = Button(btns\_frame, text = "3", fg = "black", width = 10, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(3)).grid(row = 3, column = 2, padx = 1, pady = 1)

plus = Button(btns\_frame, text = "+", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: btn\_click("+")).grid(row = 3, column = 3, padx = 1, pady = 1)

zero = Button(btns\_frame, text = "0", fg = "black", width = 21, height = 3, bd = 0, bg = "#fff", cursor = "hand2", command = lambda: btn\_click(0)).grid(row = 4, column = 0, columnspan = 2, padx = 1, pady = 1)

point = Button(btns\_frame, text = ".", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: btn\_click(".")).grid(row = 4, column = 2, padx = 1, pady = 1)

equals = Button(btns\_frame, text = "=", fg = "black", width = 10, height = 3, bd = 0, bg = "#eee", cursor = "hand2", command = lambda: bt\_equal()).grid(row = 4, column = 3, padx = 1, pady = 1)

win.mainloop()

Output:



