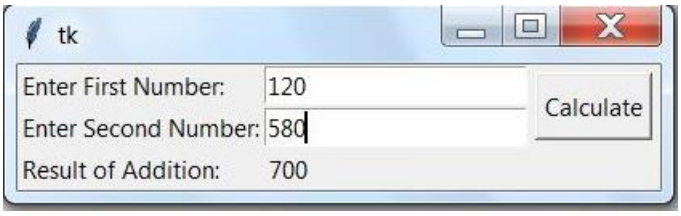
1. Write a GUI-based program that allows the user to convert temperature values between degrees Fahrenheit and degrees Celsius. The interface should have labeled entry fields for these two values. These components should be arranged in a grid where the labels occupy the first row and the corresponding fields occupy the second row. The third row in the window contains two command buttons, labeled >>>> and <<<<. When the user press the first button, the program should use the data in the Fahrenheit field to compute the Celsius value.The second button should perform the inverse function.

```
from tkinter import *

def convert_temp1():
        temp = float(E1.get())
        temp =  (temp - 32) * 5/9
        label_text.set(temp)
        E3.insert(END, str(temp))


def convert_temp2():
        temp = float(E2.get())
        temp =  (temp * (9/5)) +32              // C to F
        label_text.set(temp)
        E3.insert(END, str(temp))


root = Tk()
root.title("conversion")
L1 = Label(text= ' Enter a temperature in Faherenheit ' ,font=( ' Verdana ' , 12))
L1.grid(row=0, column=0)
E1 = Entry(font=( ' Verdana ' , 12), width=4)
E1.grid(row=1, column=0)

L2 = Label(text= ' Enter a temperature in Celcius' ,font=( ' Verdana ' , 12))
L2.grid(row=0, column=1)
```

```
E2 = Entry(font=( ' Verdana ' , 12), width=4)
E2.grid(row=1, column=1)
L3 = Label(text= ' Result ' ,font=( ' Verdana ' , 12))
L2.grid(row=1, column=2)

E3 = Entry(font=( ' Verdana ' , 12), width=4)
E3.grid(row=1, column=2)


B1 = Button(text= ' >>>> ' , font=( ' Verdana ' , 12), command=convert_temp1)
B2 = Button(text= ' <<<< ' , font=( ' Verdana ' , 12), command=convert_temp2)
B1.grid(row=2, column=0)
B2.grid(row=2, column=1)
mainloop()
```

2. Write A GUI program to add two numbers




```
from tkinter import *

def add_numbers():
   res=int(e1.get())+int(e2.get())
   label_text.set(res)
   e3.insert(END, str(res))

root = tk()

L1 = Label(text= ' Enter first number ' ,font=( ' Verdana ' , 12))
```

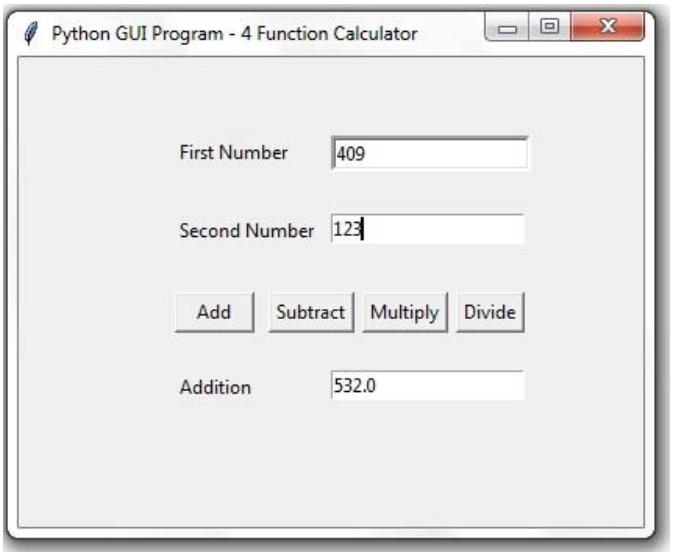
```
L1.grid(row=0, column=1)
e1 = Entry(font=( ' Verdana ' , 12), width=4)
e1.grid(row=0, column=1)

L2 = Label(text= ' Enter second number' ,font=( ' Verdana ' , 12))
L2.grid(row=0, column=1)
e2= Entry(font=( ' Verdana ' , 12), width=4)
e2.grid(row=1, column=1)

L3=Label(text='result of addition', font=( ' Verdana ' , 12))
L3.grid(row=2,column=1)

B1 = Button(text="Calculate", command=add_numbers)
B1.grid(row=0, column=2)
mainloop()
```

3. Write A GUI program for simple calculator

```
from tkinter import *

def add():

   num1=float(e1.get())
   num2=float(e2.get())
   result=num1+num2
   e3.insert(END, str(result))

def sub():
   num1=float(e1.get())
   nem2=float(e2.get())
   result=num1-num2
   e3.insert(END, str(result))
```

```
def mul():
   num1=float(e1.get())
   num2=float(e2.get())
   result=num1*num2
   e3.insert(END, str(result))

def div():
   num1=float(e1.get())
   num2=float(e2.get())
   result=num1/num2
   e3.insert(END, str(result))


root=Tk()
root.title('4 Function Calculator')

L1 = Label(text= ' First number ' ,font=( ' Verdana ' , 12))
L1.grid(row=0,column =0)
L1.place(x=100, y=50)
e1 = Entry(font=( ' Verdana ' , 12), width=4)
e1.grid(row=0,column =1)
e1.place(x=200, y=50)

L2 = Label(text= ' Second  number ' ,font=( ' Verdana ' , 12))
L2.grid(row=0,column =0)
L2.place(x=100, y=100)
e2 = Entry(font=( ' Verdana ' , 12), width=4)
e2.grid(row=1,column =1)
e2.place(x=200, y=100)

L3 = Label(text= ' Result ' ,font=( ' Verdana ' , 12))
L3.grid(row=0,column =0)

b1=Button( text='   Add   ', command=add)
b2=Button( text='Subtract', command=sub)
b3=Button( text='Multiply', command=mul)
b4=Button( text='Divide', command=div)
b1.place(x=100, y=150)
b2.place(x=160, y=150)
```

```
b3.place(x=220, y=150)
b4.place(x=280, y=150)
e3.place(x=200, y=200)
mainloop()
```



4. Write a python code to check whether a number is even or odd.

```
from tkinter import *
root = tk()

def check_numbers():
        if num%2==0:
                msg = Message( root, text = "NUMBER IS EVEN")

        else :
                msg = Message( root, text = "NUMBER IS ODD")
```

```
L1 = Label(text= ' Enter first number ' ,font=( ' Verdana ' , 12))
L1.grid(row=0, column=1)
e1 = Entry(font=( ' Verdana ' , 12), width=4)
e1.grid(row=0, column=1)

B1 = Button(text="Calculate", command=check_numbers)
B1.grid(row=1, column=2)
mainloop()
```