PRACTICAL NO 9

a) Try to configure the widget with various options like: bg=”red”, family=”times”, size=18.

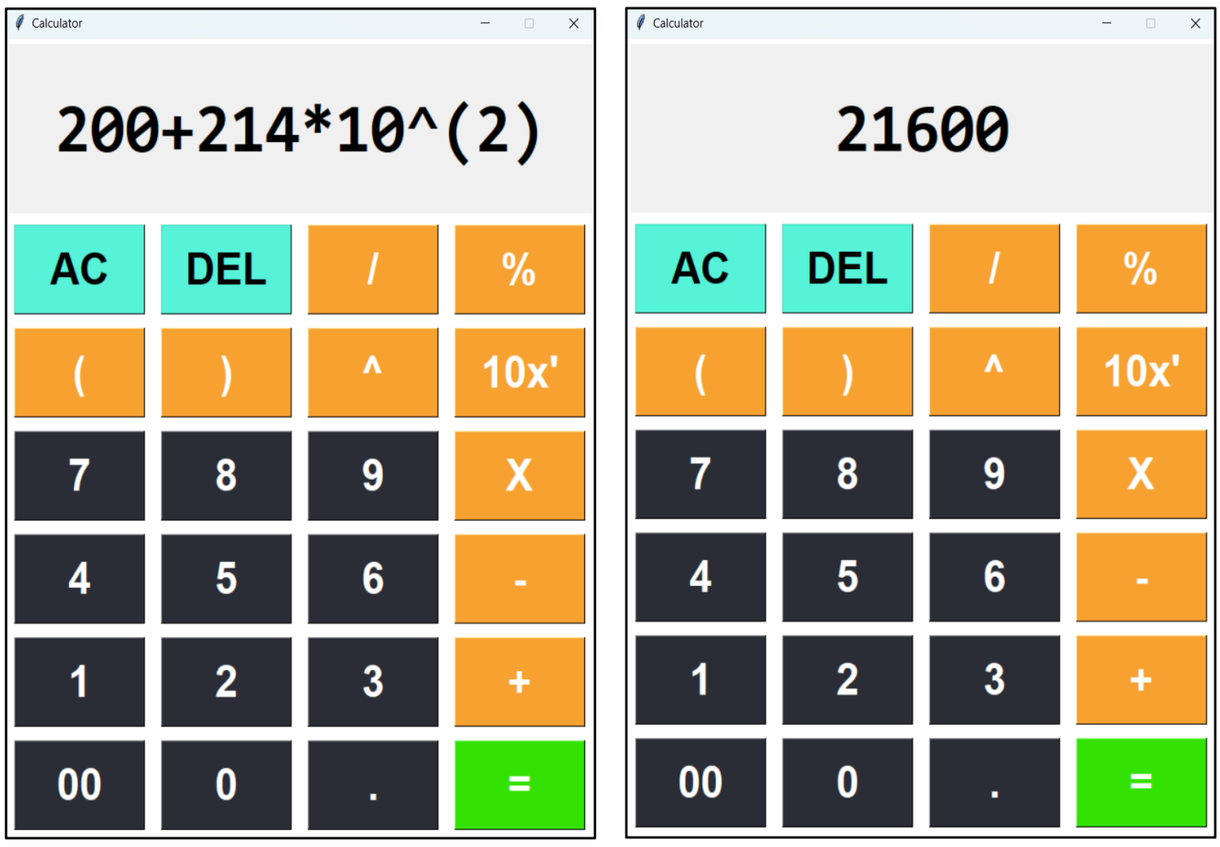
Code :

```
from tkinter import *
from tkinter import messagebox
root=Tk()
root.title("Calculator")
root.geometry("625x780")
root.resizable(False,False)
root.config(bg="#fff",padx=5,pady=5)
equation=""

def show(value):
    global equation
    equation+=value
    var.set(equation)
def delete():
    global equation
    if equation != "":
        equation=equation[0:-1]
        var.set(equation)
def clear():
    global equation
    if equation != "":
        equation=""
        var.set(equation)
def calculate():
    global equation
    if equation!="":
        try :
            if "^" in equation and "√" in equation:
                equation1=equation.replace("^","**")
                equation2=equation1.replace("√","**0.5")
                result=eval(equation2)
            elif "^" in equation:
                equation1=equation.replace("^","**")
                result=eval(equation1)
            elif "√" in equation:
                equation1=equation.replace("^","**(1/2)")
                result=eval(equation1)
            else :
                result=eval(equation)
            equation=str(result)
            var.set(equation)
        except :
            messagebox.showerror("Invalid Syntax","Enter the proper
syntax to perform this calculation or else check the system manual
to way forward")
var=StringVar()
res_text=Label(root,height=2,width=25,text="0",textvariable=var,
font=("consolas",50,"bold")).pack()
```

```
Button(root,height=1,width=5,text="AC",font=("arial",32,"bold")
,bd=1,fg="#000",bg="#56F3D8",command=lambda:
clear()).place(x=5,y=175)
Button(root,height=1,width=5,text="DEL",font=("arial",32,"bold"
),bd=1,fg="#000",bg="#56F3D8",command=lambda:
delete()).place(x=160,y=175)
Button(root,height=1,width=5,text="/",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("/")).place(x=315,y=175)
Button(root,height=1,width=5,text="%",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("%")).place(x=470,y=175)

Button(root,height=1,width=5,text="(",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("(")).place(x=5,y=275)
Button(root,height=1,width=5,text=")",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show(")")).place(x=160,y=275)
Button(root,height=1,width=5,text="^",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("^")).place(x=315,y=275)
Button(root,height=1,width=5,text="10x'",font=("arial",32,"bold
"),bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("10^(")).place(x=470,y=275)

Button(root,height=1,width=5,text="7",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("7")).place(x=5,y=375)
Button(root,height=1,width=5,text="8",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("8")).place(x=160,y=375)
Button(root,height=1,width=5,text="9",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("9")).place(x=315,y=375)
Button(root,height=1,width=5,text="X",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#F7A131",command=lambda:
show("*")).place(x=470,y=375)

Button(root,height=1,width=5,text="4",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("4")).place(x=5,y=475)
Button(root,height=1,width=5,text="5",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("5")).place(x=160,y=475)
Button(root,height=1,width=5,text="6",font=("arial",32,"bold"),
bd=1,fg="#fff",bg="#2a2d36",command=lambda:
show("6")).place(x=315,y=475)
Button(root,height=1,width=5,text="-
",font=("arial",32,"bold"),bd=1,fg="#fff",bg="#F7A131",command=
lambda: show("-")).place(x=470,y=475)
```

```
        Button(root,height=1,width=5,text="1",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show("1")).place(x=5,y=575)
        Button(root,height=1,width=5,text="2",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show("2")).place(x=160,y=575)
        Button(root,height=1,width=5,text="3",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show("3")).place(x=315,y=575)
        Button(root,height=1,width=5,text="+",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#F7A131",command=lambda:
        show("+")).place(x=470,y=575)

        Button(root,height=1,width=5,text="00",font=("arial",32,"bold")
        ,bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show("00")).place(x=5,y=675)
        Button(root,height=1,width=5,text="0",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show("0")).place(x=160,y=675)
        Button(root,height=1,width=5,text=".",font=("arial",32,"bold"),
        bd=1,fg="#fff",bg="#2a2d36",command=lambda:
        show(".")).place(x=315,y=675)
        Button(root,height=1,width=5,text="=",font=("arial",32,"bold"),bd=1,
        fg="#fff",bg="#33E202",command=lambda:
        calculate()).place(x=470,y=675)

        root.mainloop()
```

Output :



b) Try to change the widget type and configuration options to experiment with other widget types like Message, Button, Entry, Checkbutton, Radiobutton, Scale etc.

Code :

```
import tkinter as tk
from tkinter import ttk

root = tk.Tk()
root.title("Login Form")
root.geometry("450x500")

root.grid_rowconfigure(0, weight=1)
root.grid_columnconfigure(0, weight=1)

login_frame = ttk.LabelFrame(root, text="Login", padding=(20, 20))
login_frame.grid(row=0, column=0, padx=50, pady=50, sticky="nsew")

username_label = ttk.Label(login_frame, text="Username:")
username_label.grid(row=0, column=0, padx=10, pady=10, sticky="e")
username_entry = ttk.Entry(login_frame)
username_entry.grid(row=0, column=1, padx=10, pady=10, sticky="w")

password_label = ttk.Label(login_frame, text="Password:")
password_label.grid(row=1, column=0, padx=10, pady=10, sticky="e")
password_entry = ttk.Entry(login_frame, show="*")
password_entry.grid(row=1, column=1, padx=10, pady=10, sticky="w")

gender_label = ttk.Label(login_frame, text="Gender:")
gender_label.grid(row=2, column=0, padx=10, pady=10, sticky="e")

gender_var = tk.StringVar(value="Male")
male_rb = ttk.Radiobutton(login_frame, text="Male",
variable=gender_var, value="Male")
male_rb.grid(row=2, column=1, padx=5, pady=5, sticky="w")

female_rb = ttk.Radiobutton(login_frame, text="Female",
variable=gender_var, value="Female")
female_rb.grid(row=2, column=1, padx=5, pady=5, sticky="e")

remember_var = tk.BooleanVar()
remember_me = ttk.Checkbutton(login_frame, text="Remember Me",
variable=remember_var)
remember_me.grid(row=3, columnspan=2, pady=10)

comments_frame = ttk.LabelFrame(login_frame, text="Comments",
padding=(10, 10))
comments_frame.grid(row=4, columnspan=2, padx=10, pady=10)

scrollbar = tk.Scrollbar(comments_frame,orient="vertical")
scrollbar.grid(row=0, column=1, sticky="ns")

comments_text = tk.Text(comments_frame,wrap="word",width=30,
height=5, yscrollcommand=scrollbar.set)
comments_text.grid(row=0, column=0)
scrollbar.config(command=comments_text.yview)
```

```
        submit_button = ttk.Button(login_frame, text="Submit",
        command=lambda: print("Form Submitted"))
        submit_button.grid(row=6, columnspan=2, pady=10)

        root.mainloop()
```

Output :