```python
from tkinter import
import tkinter.messagebox
import math
root = Tk()
root.geometry("650x400+300+300")
root.title("Scientific Calculator")
shift = None
change = None


# Button on press

def btn1_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '1')
def btn2_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '2')
def btn3_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '3')
def btn4_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '4')
def btn5_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '5')
def btn6_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '6')
def btn7_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '7')
def btn8_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '8')
def btn9_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, '9')
def btn0_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
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    disp.insert(pos, '0')
def key_event(*args):
    if disp.get() == '0':
        disp.delete(0, END)
def btnp_clicked():
    pos = len(disp.get())
    disp.insert(pos, '+')
def btnm_clicked():
    pos = len(disp.get())
    disp.insert(pos, '-')
def btnml_clicked():
    pos = len(disp.get())
    disp.insert(pos, '*')
def btnd_clicked():
    pos = len(disp.get())
    disp.insert(pos, '/')
def btnc_clicked(*args):
    disp.delete(0, END)
    disp.insert(0, '0')
def sin_clicked():
    try:
        ans = float(disp.get())
        if change is True:
            ans = math.sin(ans)
        else:
            ans = math.sin(math.radians(ans))
        disp.delete(0, END)
        disp.insert(0, str(ans))
    except Exception:
        tkinter.messagebox.showerror("Value Error", "Check your values and operators")
def cos_clicked():
    try:
        ans = float(disp.get())
        if change is True:
            ans = math.cos(ans)
        else:
            ans = math.cos(math.radians(ans))
        disp.delete(0, END)
        disp.insert(0, str(ans))
    except Exception:
        tkinter.messagebox.showerror("Value Error", "Check your values and operators")
def tan_clicked():
    try:
        ans = float(disp.get())
        if change is True:
            ans = math.tan(ans)
        else:
            ans = math.tan(math.radians(ans))
        disp.delete(0, END)
        disp.insert(0, str(ans))
    except Exception:
        tkinter.messagebox.showerror("Value Error", "Check your values and operators")
def arcsin_clicked():
    try:
        ans = float(disp.get())
        if change is True:
            ans = math.asin(ans)
        else:
            ans = math.degrees(math.asin(ans))
        disp.delete(0, END)
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            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def arccos_clicked():
        try:
            ans = float(disp.get())
            if change is True:
                ans = math.acos(ans)
            else:
                ans = math.degrees(math.acos(ans))
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def arctan_clicked():
        try:
            ans = float(disp.get())
            if change is True:
                ans = math.atan(ans)
            else:
                ans = math.degrees(math.atan(ans))
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def pow_clicked():
        pos = len(disp.get())
        disp.insert(pos, '**')
    def round_clicked():
        try:
            ans = float(disp.get())
            ans = round(ans)
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def logarithm_clicked():
        try:
            ans = float(disp.get())
            ans = math.log10(ans)
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def fact_clicked():
        try:
            ans = float(disp.get())
            ans = math.factorial(ans)
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
    def sqr_clicked():
        try:
            ans = float(disp.get())
            ans = math.sqrt(ans)
            disp.delete(0, END)
            disp.insert(0, str(ans))
        except Exception:
            tkinter.messagebox.showerror("Value Error", "Check your values and operators")
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def dot_clicked():
pos = len(disp.get())
disp.insert(pos, '.')
def pi_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, str(math.pi))
def e_clicked():
if disp.get() == '0':
disp.delete(0, END)
pos = len(disp.get())
disp.insert(pos, str(math.e))
def bl_clicked():
pos = len(disp.get())
disp.insert(pos, '(')
def br_clicked():
pos = len(disp.get())
disp.insert(pos, ')')
def del_clicked():
pos = len(disp.get())
display = str(disp.get())
if display == '':
disp.insert(0, '0')
elif display == ' ':
disp.insert(0, '0')
elif display == '0':
pass
else:
disp.delete(0, END)
disp.insert(0, display[0:pos - 1])
def conv_clicked():
global shift
if shift is None:
shift = True
conv_btn['text'] = "Deg"
else:
shift = None
conv_btn['text'] = "Deg"
def ln_clicked():
try:
ans = float(disp.get())
ans = math.log(ans)
disp.delete(0, END)
disp.insert(0, str(ans))
except Exception:
tkinter.messagebox.showerror("Value Error", "Check your values and operators")
def mod_clicked():
pos = len(disp.get())
disp.insert(pos, '%')
def btneq_clicked():
try:
ans = disp.get()
ans = eval(ans)
disp.delete(0, END)
disp.insert(0, ans)
except:
tkinter.messagebox.showerror("Value Error", "Check your values and operators")

# Label
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data = StringVar()
disp = Entry(root, font="Verdana 20", fg="black", bg="white", bd=4, justify=RIGHT,
insertbackground="#abbab1",
cursor="arrow")
disp.pack(expand=TRUE, fill=BOTH)

# Row 1 Buttons

btnrow1 = Frame(root, bg="#000000")
btnrow1.pack(expand=TRUE, fill=BOTH)
pi_btn = Button(btnrow1, text="π", font="Segoe 18", relief=GROOVE, bd=0, command=pi_clicked,
fg="white", bg="#333333")
pi_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
fact_btn = Button(btnrow1, text=" x! ", font="Segoe 18", relief=GROOVE, bd=0, command=fact_clicked,
fg="white",
bg="#333333")
fact_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
sin_btn = Button(btnrow1, text="sin", font="Segoe 18", relief=GROOVE, bd=0, command=sin_clicked,
fg="white",
bg="#333333")
sin_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
cos_btn = Button(btnrow1, text="cos", font="Segoe 18", relief=GROOVE, bd=0, command=cos_clicked,
fg="white",
bg="#333333")
cos_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
tan_btn = Button(btnrow1, text="tan", font="Segoe 18", relief=GROOVE, bd=0, command=tan_clicked,
fg="white",
bg="#333333")
tan_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn1 = Button(btnrow1, text="1", font="Segoe 23", relief=GROOVE, bd=0, command=btn1_clicked,
fg="white", bg="#333333")
btn1.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn2 = Button(btnrow1, text="2", font="Segoe 23", relief=GROOVE, bd=0, command=btn2_clicked,
fg="white", bg="#333333")
btn2.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn3 = Button(btnrow1, text="3", font="Segoe 23", relief=GROOVE, bd=0, command=btn3_clicked,
fg="white", bg="#333333")
btn3.pack(side=LEFT, expand=TRUE, fill=BOTH)
btnp = Button(btnrow1, text="+", font="Segoe 23", relief=GROOVE, bd=0, command=btnp_clicked,
fg="white", bg="#333333")
btnp.pack(side=LEFT, expand=TRUE, fill=BOTH)

# Row 2 Buttons

btnrow2 = Frame(root)
btnrow2.pack(expand=TRUE, fill=BOTH)
e_btn = Button(btnrow2, text="e", font="Segoe 18", relief=GROOVE, bd=0, command=e_clicked,
fg="white", bg="#333333")
e_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
sqr_btn = Button(btnrow2, text=" √x ", font="Segoe 18", relief=GROOVE, bd=0, command=sqr_clicked,
fg="white",
bg="#333333")
sqr_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
sinh_btn = Button(btnrow2, text="sin−1", font="Segoe 11 bold", relief=GROOVE, bd=0,
command=arcsin_clicked, fg="white",
bg="#333333")
sinh_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
cosh_btn = Button(btnrow2, text="cos-1", font="Segoe 11 bold", relief=GROOVE, bd=0,
command=arccos_clicked, fg="white",
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                   bg="#333333")
cosh_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
tanh_btn = Button(btnrow2, text="tan-1", font="Segoe 11 bold", relief=GROOVE, bd=0,
command=arctan_clicked, fg="white",
                   bg="#333333")
tanh_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn4 = Button(btnrow2, text="4", font="Segoe 23", relief=GROOVE, bd=0, command=btn4_clicked,
fg="white", bg="#333333")
btn4.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn5 = Button(btnrow2, text="5", font="Segoe 23", relief=GROOVE, bd=0, command=btn5_clicked,
fg="white", bg="#333333")
btn5.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn6 = Button(btnrow2, text="6", font="Segoe 23", relief=GROOVE, bd=0, command=btn6_clicked,
fg="white", bg="#333333")
btn6.pack(side=LEFT, expand=TRUE, fill=BOTH)
btnm = Button(btnrow2, text="-", font="Segoe 23", relief=GROOVE, bd=0, command=btnm_clicked,
fg="white", bg="#333333")
btnm.pack(side=LEFT, expand=TRUE, fill=BOTH)

# Row 3 Buttons

btnrow3 = Frame(root)
btnrow3.pack(expand=TRUE, fill=BOTH)
conv_btn = Button(btnrow3, text="Deg", font="Segoe 12 bold", relief=GROOVE, bd=0,
command=conv_clicked, fg="white",
                   bg="#00CDFE")
conv_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
round_btn = Button(btnrow3, text="round", font="Segoe 10 bold", relief=GROOVE, bd=0,
command=round_clicked, fg="white",
                   bg="#333333")
round_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
ln_btn = Button(btnrow3, text="ln", font="Segoe 18", relief=GROOVE, bd=0, command=ln_clicked,
fg="white", bg="#333333")
ln_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
logarithm_btn = Button(btnrow3, text="log", font="Segoe 17", relief=GROOVE, bd=0,
command=logarithm_clicked, fg="white",
                   bg="#333333")
logarithm_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
pow_btn = Button(btnrow3, text="x^y", font="Segoe 17", relief=GROOVE, bd=0, command=pow_clicked,
fg="white",
                   bg="#333333")
pow_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn7 = Button(btnrow3, text="7", font="Segoe 23", relief=GROOVE, bd=0, command=btn7_clicked,
fg="white", bg="#333333")
btn7.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn8 = Button(btnrow3, text="8", font="Segoe 23", relief=GROOVE, bd=0, command=btn8_clicked,
fg="white", bg="#333333")
btn8.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn9 = Button(btnrow3, text="9", font="Segoe 23", relief=GROOVE, bd=0, command=btn9_clicked,
fg="white", bg="#333333")
btn9.pack(side=LEFT, expand=TRUE, fill=BOTH)
btnml = Button(btnrow3, text="*", font="Segoe 23", relief=GROOVE, bd=0, command=btnml_clicked,
fg="white", bg="#333333")
btnml.pack(side=LEFT, expand=TRUE, fill=BOTH)

# Row 4 Buttons

btnrow4 = Frame(root)
btnrow4.pack(expand=TRUE, fill=BOTH)
mod_btn = Button(btnrow4, text="%", font="Segoe 21", relief=GROOVE, bd=0, command=mod_clicked,
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                                      fg="white", bg="#333333")
mod_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
bl_btn = Button(btnrow4, text=" ( ", font="Segoe 21", relief=GROOVE, bd=0, command=bl_clicked,
fg="white", bg="#333333")
bl_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
br_btn = Button(btnrow4, text=" ) ", font="Segoe 21", relief=GROOVE, bd=0, command=br_clicked,
fg="white", bg="#333333")
br_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
dot_btn = Button(btnrow4, text=" • ", font="Segoe 21", relief=GROOVE, bd=0, command=dot_clicked,
fg="white",
bg="#333333")
dot_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
btnc = Button(btnrow4, text="C", font="Segoe 23", relief=GROOVE, bd=0, command=btnc_clicked,
fg="white", bg="#333333")
btnc.pack(side=LEFT, expand=TRUE, fill=BOTH)
del_btn = Button(btnrow4, text="⌫", font="Segoe 20", relief=GROOVE, bd=0, command=del_clicked,
fg="white", bg="#333333")
del_btn.pack(side=LEFT, expand=TRUE, fill=BOTH)
btn0 = Button(btnrow4, text="0", font="Segoe 23", relief=GROOVE, bd=0, command=btn0_clicked,
fg="white", bg="#333333")
btn0.pack(side=LEFT, expand=TRUE, fill=BOTH)
btneq = Button(btnrow4, text="=", font="Segoe 23", relief=GROOVE, bd=0, command=btneq_clicked,
fg="white", bg="#FA8072")
btneq.pack(side=LEFT, expand=TRUE, fill=BOTH)
btnd = Button(btnrow4, text="/", font="Segoe 23", relief=GROOVE, bd=0, command=btnd_clicked,
fg="white", bg="#333333")
btnd.pack(side=LEFT, expand=TRUE, fill=BOTH)
root.mainloop()
```