SIMPLE CALCULATOR

Description of the study

The "Simple Calculator" study aims to create a basic calculator application using Python, focusing on arithmetic operations and graphical interface (GUI) design. It covers concepts like error handling for invalid inputs and serves as an educational tool for learning programming fundamentals and GUI development in Python. The word simple cause the calculator using a simple arithmetic operations

Objective of the "Simple Calculator" project aims to use Python to develop a useful and intuitive calculator application. Its goal is to give users a simple and convenient way to complete calculations quickly, putting user-friendliness ahead of sophisticated mathematical features found in specialize calculators.

Purpose of my code users can enter two numbers into your basic calculator program and select addition, subtraction, multiplication, or division to compute the result. It is an easy-to-use tool for basic arithmetic operations.

The code's significance lies in its creation of a user-friendly simple calculator using Python's Tkinter. It offers an intuitive GUI for basic arithmetic operations, with event handlers for interactivity and error handling for reliability. As a practical learning tool, it showcases GUI development in Python and can be customized as needed, making it valuable for both education and practical use.

Features of the code:

➢ **User-Friendly Interface**: It presents a clear and easy-to-use interface for entering numbers and selecting operations.

➢ **Basic Arithmetic Operations**: Supports addition, subtraction, multiplication, and division, covering fundamental mathematical operations.

➢ **Error Handling**: Includes error handling for division by zero or other invalid inputs to ensure accurate and reliable calculations.

➢ **Flexibility**: Allows users to input decimal numbers for more precise calculations.

➢ **Readability**: Organized code structure with functions for each operation, enhancing code readability and maintainability.

➢ **Output Display**: Shows the result of calculations clearly to the user, making it easy to read and understand the outcome.

➢ **Accessibility**: Provides a simple tool accessible to users who need to perform quick calculations without the complexity of advanced mathematical functions.

Code:

```python
from tkinter import *

root = Tk()
root.title('simple calculator')
root.configure(bg='brown')



e = Entry(root, width=35, borderwidth=5)
e.grid(row=0, column=0, columnspan=3, padx=10, pady=10)

def button_click(number):
    current = e.get()
    e.delete(0, END)
    e.insert(0, str(current) + str(number))

def button_clear():
    e.delete(0, END)

def button_add():
    first_number = e.get()
    global f_num
    global math
    math = "addition"
    f_num = int(first_number)
    e.delete(0, END)

def button_equal():
    second_number = e.get()
    e.delete(0, END)

    if math == "addition":
        e.insert(0, f_num + int(second_number))

    if math == "subtraction":
        e.insert(0, f_num - int(second_number))

    if math == "multiplication":
        e.insert(0, f_num * int(second_number))

    if math == "division":
        e.insert(0, f_num / int(second_number))
```

```python
def button_subtract():
    first_number = e.get()
    global f_num
    global math
    math = "subtraction"
    f_num = int(first_number)
    e.delete(0, END)

def button_multiply():
    first_number = e.get()
    global f_num
    global math
    math = "multiplication"
    f_num = int(first_number)
    e.delete(0, END)


def button_divide():
    first_number = e.get()
    global f_num
    global math
    math = "division"
    f_num = int(first_number)
    e.delete(0, END)




button_1 = Button(root, text='1', padx=40, pady=20, command =lambda: button_click(1))
button_2 = Button(root, text='2', padx=40, pady=20, command =lambda: button_click(2))
button_3 = Button(root, text='3', padx=40, pady=20, command =lambda: button_click(3))
button_4 = Button(root, text='4', padx=40, pady=20, command =lambda: button_click(4))
button_5 = Button(root, text='5', padx=40, pady=20, command =lambda: button_click(5))
button_6 = Button(root, text='6', padx=40, pady=20, command =lambda: button_click(6))
button_7 = Button(root, text='7', padx=40, pady=20, command =lambda: button_click(7))
button_8 = Button(root, text='8', padx=40, pady=20, command =lambda: button_click(8))
button_9 = Button(root, text='9', padx=40, pady=20, command =lambda: button_click(9))
button_0 = Button(root, text='0', padx=40, pady=20, command =lambda: button_click(0))
button_add = Button(root, text='+', padx=39, pady=20, command = button_add)
button_equal = Button(root, text='=', padx=91, pady=20, command = button_equal)
button_clear = Button(root, text='C', padx=91, pady=20, command = button_clear)

button_subract  = Button(root, text='-', padx=40, pady=20, command = button_subtract)
```

```python
button_multiply = Button(root, text='*', padx=40, pady=20, command = button_multiply)
button_divide = Button(root, text='/', padx=40, pady=20, command = button_divide)



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

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

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

button_0.grid(row=4 ,column=0)
button_clear.grid(row=4 ,column=1, columnspan=2)
button_add.grid(row=5, column=0)
button_equal.grid(row=5, column=1, columnspan=2)

button_multiply.grid(row=6, column=2)
button_divide.grid(row=6, column=1)
button_subract.grid(row=6, column=0)



root.mainloop()
```
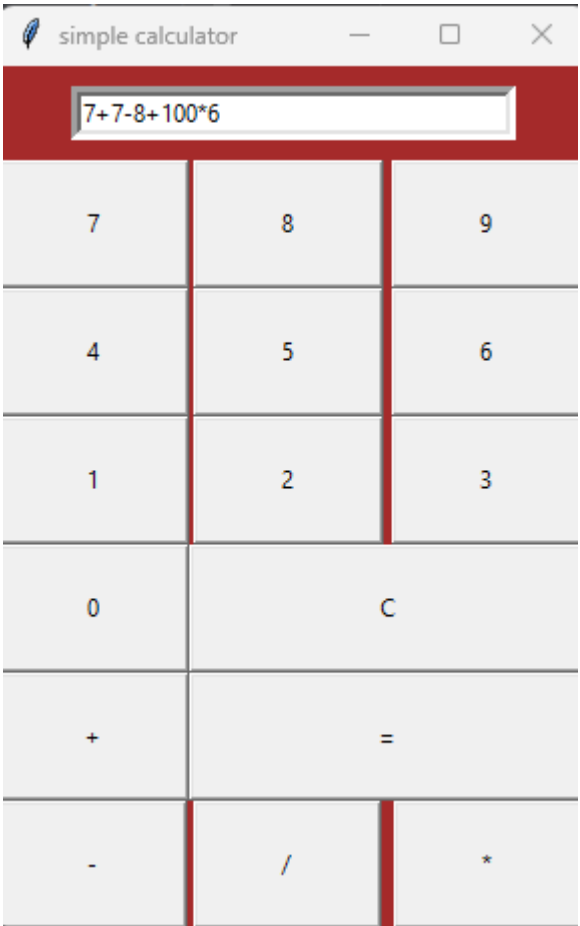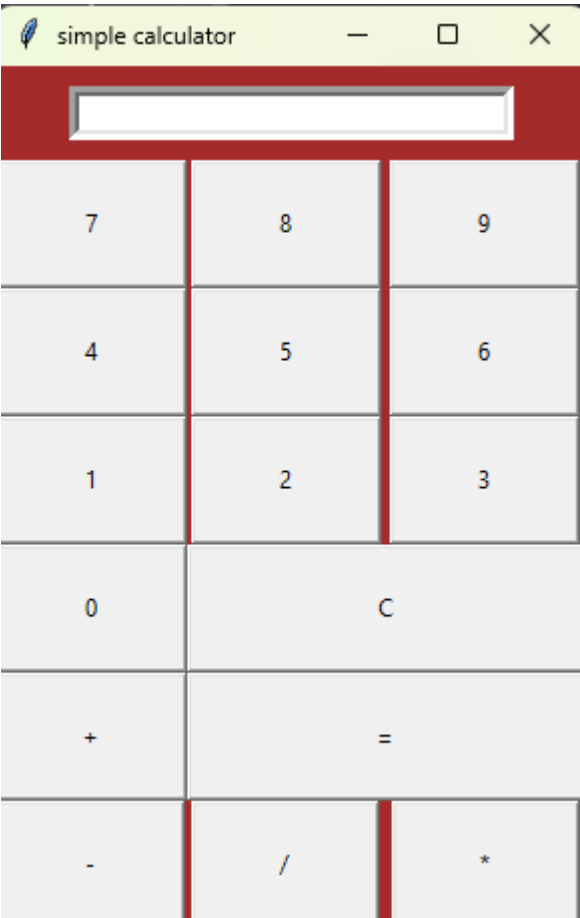
Output

CURRICULUM VITAL

PERSONAL INFORMATION

Name: George Michael B. Elipe

Contact number: 09814207938

Email Adress: georgemichaelelipe@gmail.com

Date of Birth: September 20, 2004

Place of Birth: Caraga Hospital

Address: P-1, San Isidro, Placer, Surigao Del Norte

Age: 19

Nationality: Filipino

Religion: United Catholic Church of the Philippines

Civil Status: Single

Father's Name: Gregorio Elipe

Mother's Name: Margie Elipe

EDUCATIONAL BACKGROUND

Elementary   San Isidro Elementary
        P-2, San Isidro, Placer, Surigao Del Norte
Junior High School   Amando A. Fabio Memorial National High School
        P-2, Sta Cruz, Placer, Surigao Del Norte
Senior High School   Amando A. Fabio Memorial National High School
        P-2, Sta Cruz, Placer, Surigao Del Norte