This Python program is a simple GUI-based calculator built using the “Tkinter” library. The program provides a \*user-friendly interface\* that allows users to perform \*basic arithmetic operations\* (\*addition, subtraction, multiplication, and division\*).

**Key Features:**

✅ Graphical Interface – No need for console input; everything is button-based.

✅ Basic Arithmetic Operations – Supports +, -, \*, and /.

✅ Error Handling – Prevents division by zero and invalid inputs.

✅ Dynamic Button Creation – Layout is generated dynamically for easy modifications.

**1. Graphical Interface:**

Uses “Tkinter” to create a visually appealing and easy-to-use calculator.

Includes “buttons” for digits (0-9) and operations (+, -, \*, /).

**2. Dynamic Input Handling:**

Clicking a button appends its value to the display field.

The input is stored in a “Tkinter StringVar”, which dynamically updates the display.

**3. Basic Operations:**

Users can perform addition, subtraction, multiplication, and division.

The eval() function is used to evaluate expressions dynamically when "=" is pressed.

**4. Error Handling:**

“Division by zero” triggers a “friendly error message”instead of crashing.

Invalid inputs (e.g., multiple operators in a row) also show an error pop-up.

**5. User-Friendly Design:**

The window size is fixed (300x400) to prevent accidental resizing.

**Dynamic button layout:** avoids repetitive code and ensures scalability.

**How It Works:**

1. Users “click number buttons” to input values.

2. Clicking an “operation button (+, -, \*, /)” adds it to the expression.

3. Pressing = evaluates the entered mathematical expression and displays the result.

4. Pressing C “clears the display”

5. If an invalid expression is entered, an “**error message is displayed**”.

This program provides a “**simple, intuitive, and error-resistan**t” way for users to perform basic arithmetic calculations.