**Python Tkinter Click Counter Program**

**✅ Summary of What This App Does:**

* Opens a 300x300 window titled "CLICK COUNT BY REX".
* Shows a button labeled **"Click Me"**.
* When the button is clicked, a counter goes up and updates a label saying **"You clicked X times"**.
* All interactions are handled through Tkinter’s GUI widgets and event system.

**🧠 What is Tkinter?**

**Tkinter** is Python’s built-in library used for creating **Graphical User Interfaces (GUIs)**. With Tkinter, you can build windows, buttons, labels, text boxes, and many other GUI elements for desktop applications.

To use Tkinter, we write:

from tkinter import \*

This line imports all Tkinter classes and functions.

**🪟 What is Tk()?**

root = Tk()

* Tk() is a class in Tkinter used to **create the main application window**.
* We store it in a variable called root, which acts as the base (or parent) for all GUI elements like buttons and labels.

**🖼️ What is geometry()**

root.geometry("300x300")

* This sets the **size** of the window to **300 pixels wide** and **300 pixels high**.

**🏷️ What is title()?**

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root.title("CLICK COUNT BY REX")

* Sets the **title of the window**, which appears in the window's top bar.

**🔢 What is number = 0?**

number = 0

* A **global variable** used to **keep count of how many times the button is clicked**.

**⚙️ What is a Function?**

We define a function to handle what happens when the button is clicked:

def clickButton():

global number

number += 1

ShowInfo["text"] = "You clicked " + str(number) + " times"

Let’s break it down:

* def clickButton(): defines a function called clickButton.
* global number: allows the function to use and update the global number variable.
* number += 1: increases the count by 1.
* ShowInfo["text"] = ...: changes the label’s text to show the updated count.

**🖱️ What is a Button in Tkinter?**

clickingButton = Button(root, text="Click Me", padx=50, pady=50, bg="gold", font=("Arial", 22), command=clickButton)

This creates a **button** with the following properties:

* root: the button is placed inside the main window.
* text="Click Me": text written on the button.
* padx=50, pady=50: adds space *inside* the button (padding).
* bg="gold": sets the background color.
* font=("Arial", 22): sets font to Arial, size 22.
* command=clickButton: calls the clickButton() function when clicked.

**🏷️ What is a Label in Tkinter?**

ShowInfo = Label(root, text="Message", font=("Arial", 22), fg="purple", pady=20)

This creates a **label** that will display the message. Properties:

* root: label is placed inside the main window.
* text="Message": initial text shown on the label.
* font=("Arial", 22): sets the font and size.
* fg="purple": sets text color to purple.
* pady=20: adds vertical space *outside* the label (margin).

**📦 What is pack()?**

clickingButton.pack()

ShowInfo.pack()

* pack() tells Tkinter to **place the widget** (button or label) on the window.
* Widgets are placed **top to bottom** by default using pack.

**🔁 What is mainloop()?**

root.mainloop()

* Starts the **Tkinter event loop**, which keeps the window open.
* Without this line, the window would open and immediately close.