

```

import tkinter as tk

def on_button_click():
    label.config(text="Button clicked!")

# Create the main window
window = tk.Tk()
window.title("Tkinter Example")

# Create a label
label = tk.Label(window, text="Hello, Tkinter!")
label.pack(pady=10) #pady=10 adds some vertical padding.
#The pack() method is used to organize and display the widget

# Create a button
button = tk.Button(window, text="Click me!", command=on_button_click)
button.pack()

# Start the Tkinter event loop
window.mainloop()

```

This code is a simple example of a graphical user interface (GUI) created using the Tkinter library in Python. Let's break down the code step by step:

1. Import Tkinter module:

```
import tkinter as tk
```

This line imports the Tkinter module and aliases it as `tk` for convenience.

2. Define the button click event function:

```
def on_button_click():
    label.config(text="Button clicked!")
```

This function, `on_button_click()`, is defined to be called when the button is clicked. It updates the text of the `label` widget to "Button clicked!".

3. Create the main window:

```
window = tk.Tk()
window.title("Tkinter Example")
```

It creates the main window using `tk.Tk()`. The title of the window is set to "Tkinter Example".

4. Create a label:

```
label = tk.Label(window, text="Hello, Tkinter!")  
label.pack(pady=10)
```

This creates a label widget with the initial text "Hello, Tkinter!" and adds it to the main window. The `pack()` method is used to organize and display the widget, and `pady=10` adds some vertical padding.

5. Create a button:

```
button = tk.Button(window, text="Click me!", command=on_button_click)  
button.pack()
```

This creates a button widget with the label "Click me!" and associates it with the `on_button_click` function using the `command` parameter. The button is also added to the main window using the `pack()` method.

6. Start the Tkinter event loop:

```
window.mainloop()
```

This line starts the Tkinter event loop, which continuously listens for user input, such as button clicks, and updates the GUI accordingly. The program will continue running until the user closes the main window.

When you run this script, a window will appear with a label and a button. Clicking the button will trigger the `on_button_click` function, changing the label text to "Button clicked!". This example demonstrates the basic structure of a Tkinter GUI application with a button click event.