# GUI Programming: Tkinter Basics

## 1. Basic Commands

- tk.Tk(): Create main window

- root.title("Title"): Set window title

- root.geometry("widthxheight"): Set window size

- root.mainloop(): Run the app

- root.configure(bg="color"): Set background color

## 2. Labels (Text Display)

- tk.Label(root, text="text"): Create a label

- .pack(): Add label to window

- .grid(row=, column=): Add label to specific place

- .place(x=, y=): Place label at coordinates

Example:

label = tk.Label(root, text="Welcome!")

label.pack()

## 3. Buttons (Clickable)

- tk.Button(root, text="Button"): Create button

- command=function_name: Run function when clicked

Example:

def say_hello():

    print("Hello!")

button = tk.Button(root, text="Click Me", command=say_hello)

button.pack()

## 4. Entry Boxes (User Input)

- tk.Entry(root): Create input box

- .get(): Get input text

- .insert(index, "text"): Insert text into box

- .delete(start, end): Delete text

Example:

entry = tk.Entry(root)

entry.pack()

def show_input():

   print(entry.get())

## 5. Layout Management (pack, grid, place)

(A) pack()

- .pack(): Stack widgets vertically

- .pack(side="left/right/top/bottom"): Set side

- .pack(padx=, pady=): Set padding

(B) grid()

- .grid(row=, column=): Place widgets like table

- .grid(padx=, pady=): Padding

(C) place()

- .place(x=, y=): Place at exact position

## Summary Table

| Widget | How to Create | How to Use |
| --- | --- | --- |
| Label | tk.Label() | .pack(), .grid(), .place() |
| Button | tk.Button() | command=your_function |
| Entry | tk.Entry() | .get(), .insert(), .delete() |
| Layouts | pack, grid, place | Arrange widgets |

## Mini Example (All Together)

# GUI Programming: Tkinter Basics

```python
import tkinter as tk

def show_name():
    print(name_entry.get())

root = tk.Tk()
root.title("Mini Form")
root.geometry("300x200")

tk.Label(root, text="Name:").grid(row=0, column=0)
name_entry = tk.Entry(root)
name_entry.grid(row=0, column=1)

submit_button = tk.Button(root, text="Submit", command=show_name)
submit_button.grid(row=1, column=1, pady=10)

root.mainloop()
```