**1. List the steps to create a GUI application using Tkinter.**  
The basic steps to create a GUI application using Tkinter are:

1. **Import Tkinter module**: import tkinter as tk
2. **Create the main application window**: root = tk.Tk()
3. **Set window properties** (title, size, etc.): root.title("My GUI")
4. **Add widgets** (Labels, Buttons, Entry fields, etc.):

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

label.pack()

Define functions for event handling:

def on\_click():

print("Button Clicked!")

Attach event handlers to widgets:

button = tk.Button(root, text="Click Me", command=on\_click)

button.pack()

Run the event loop: root.mainloop()

**2. Discuss the types of window components and their functions.**

1. **Labels (Label)** - Displays text or images.
2. **Buttons (Button)** - Used to trigger events when clicked.
3. **Entry (Entry)** - Accepts single-line text input from the user.
4. **Text (Text)** - Multi-line text input field.
5. **Checkbutton (Checkbutton)** - Checkbox for multiple selections.
6. **Radiobutton (Radiobutton)** - Allows selecting only one option from multiple choices.
7. **Frame (Frame)** - Container to group multiple widgets.
8. **Canvas (Canvas)** - Used for drawing shapes, images, or custom designs.
9. **Scrollbar (Scrollbar)** - Adds scrolling capability to other widgets.
10. **Menu (Menu)** - Creates a menu bar with dropdown options.

**Describe two fundamental differences between terminal-based UIs and GUIs.**

1. **User Interaction** - Terminal-based UIs require textual commands, whereas GUIs provide a graphical way to interact using buttons, menus, and icons.
2. **Learning Curve** - Terminals require knowledge of commands, while GUIs are more intuitive and user-friendly.