**🧩 Module 11: Writing GUIs in Python — Review & Practice**

**1️⃣ Introduction to GUI**

**Questions:**

1. What is the main difference between a GUI and a command-line interface in Python?
2. Why is Tkinter considered a good starting point for beginners in GUI development?

**2️⃣ GUI Components (Widgets)**

**Questions:**

1. Name any five Tkinter widgets and describe their basic purpose.
2. What is the use of the Frame widget in Tkinter applications?

**3️⃣ Events in GUI**

**Questions:**

1. What is an event in Tkinter, and give two examples of event triggers.
2. How do you bind a mouse double-click event to a function in Tkinter?

**4️⃣ The Root Component**

**Questions:**

1. What is the purpose of the root = tk.Tk() statement?
2. How does root.mainloop() affect the execution of a GUI program?

**5️⃣ Adding a Button**

**Questions:**

1. What is the purpose of the command parameter in a Tkinter Button widget?
2. Write a short snippet that creates a button that prints “Button Pressed” when clicked.

**6️⃣ Entry Widgets**

**Questions:**

1. What is the difference between get() and insert() methods of an Entry widget?
2. How would you create a password field using Tkinter Entry?

**7️⃣ Text Widgets**

**Questions:**

1. What is the main difference between the Text widget and the Entry widget?
2. What does the "1.0" index represent in the Text.get("1.0", tk.END) method?

**8️⃣ Checkbuttons**

**Questions:**

1. What is the role of a BooleanVar() in a Checkbutton widget?
2. How can you detect multiple selections from different Checkbuttons?

**9️⃣ Project: Inventory Management GUI**

**Questions:**

1. What Python libraries were used to handle Excel operations in this project?
2. How does the program ensure that order details are saved even after the GUI is closed?

**💻 Real-Life GUI Projects for Practice**

**Project 1: Student Registration Form**

**Goal:** Create a GUI application that allows users to enter and save student details (Name, Age, Gender, Course) into an Excel sheet.  
**Key widgets:** Label, Entry, Radiobutton, Combobox, Button.  
**Features:**

* Validation for empty fields
* Save each record to Excel using pandas
* Clear input fields after saving

**Project 2: Expense Tracker Application**

**Goal:** Build a GUI that helps users record daily expenses and view total spending.  
**Key widgets:** Entry, Text, Button, Label, and optionally a Treeview.  
**Features:**

* Add expense name, amount, and date
* Save data to Excel or CSV
* Display the total expense at the bottom
* Optional: Filter by date range