

## ■ 29-Day Python + Tkinter Roadmap (4 Hours/Day)

### ■ Week 1 (Days 1–7) → Combine Basics You Already Know

- ■ Goal: Move from isolated features → combined small programs.
- Day 1: Review variables, strings, numbers, lists, sets, tuples → mini address book.
- Day 2: If/Else + Match + While → menu-driven calculator.
- Day 3: Dictionaries + lists → student grade tracker.
- Day 4: Sets + lists + conditions → unique word counter.
- Day 5: Loops + conditions → guess the number game.
- Day 6: Simple library system (add/remove/search books).
- Day 7 (Mini-Project): CRUD text-based app (add, view, update, delete).

### ■ Week 2 (Days 8–14) → Functions + For Loops

- ■ Goal: Structure code into reusable pieces.
- Day 8: Learn functions. Rewrite CRUD app with functions.
- Day 9: Function practice (scopes, defaults).
- Day 10: For loop practice.
- Day 11: Functions + loops → prime checker, factorial, Fibonacci.
- Day 12: Lists + loops + functions → shopping cart app.
- Day 13: Dictionaries + functions + loops → student database.
- Day 14 (Mini-Project): Text-based Todo App with functions + loops.

### ■ Week 3 (Days 15–21) → Tkinter Basics

- ■ Goal: Start GUI basics (windows, buttons, labels, entries).
- Day 15: Install Tkinter, open window, add label/button/entry.
- Day 16: Layout managers (pack, grid, place). Create login form UI.
- Day 17: Bind button clicks to functions (simple calculator).
- Day 18: Input/output in Tkinter (text boxes, labels).
- Day 19: Frames & multiple windows.
- Day 20: Menus & simple dashboards.
- Day 21 (Mini-Project): GUI Calculator.

## ■ Week 4 (Days 22–28) → Tkinter Projects

- ■ Goal: Build functional apps with CRUD features.
- Day 22: Todo list app (add/delete tasks).
- Day 23: Data entry app (store input in dictionary/list).
- Day 24: Add update + search functionality.
- Day 25: Multiple frames/windows (dashboard → other features).
- Day 26: Add clear + delete all features.
- Day 27: Polish design (labels, buttons, better layout).
- Day 28 (Mini-Project): Data Entry App with Add/Search/Update/Delete + dashboard.

## ■ Day 29 → Final Project

- Build your first complete GUI app (Todo list, student database, or library system) with Add/Update/Delete/Clear, multiple windows, and menus.