

Python Programming Roadmap (Up to OOP)

30-Day Study Plan

- 1 Day 1–2: Variables, Data Types, Type Casting, Input/Output
- 2 Day 3–4: Operators & Conditional Statements
- 3 Day 5–6: Loops (for, while, range, break, continue)
- 4 Day 7: String Basics, Indexing & Slicing
- 5 Day 8: String Methods & Formatting
- 6 Day 9–10: Lists & List Methods
- 7 Day 11: Tuples & Sets
- 8 Day 12–13: Dictionaries
- 9 Day 14: Revision + Practice Problems
- 10 Day 15–16: Functions & Return Values
- 11 Day 17: Arguments, *args, **kwargs, Lambda
- 12 Day 18: Built-in Functions (map, filter, zip)
- 13 Day 19: Error Handling
- 14 Day 20: File Handling
- 15 Day 21: Modules & Imports
- 16 Day 22: JSON, CSV, DateTime
- 17 Day 23–25: Mini Projects
- 18 Day 26–27: Problem Solving & Logic Building
- 19 Day 28: OOP Concepts Overview
- 20 Day 29–30: OOP Practice & Small Project

Practice Problems (After Each Section)

- 1 Variables: Swap two variables, temperature converter
- 2 Conditions: Grade calculator, odd/even checker
- 3 Loops: Multiplication table, sum of digits
- 4 Strings: Palindrome check, word counter
- 5 Lists: Find largest number, remove duplicates
- 6 Tuples/Sets: Common elements finder
- 7 Dictionaries: Frequency counter
- 8 Functions: Calculator using functions
- 9 File Handling: Read & count lines from a file

Mini Project Ideas (Before OOP)

- 1 CLI Calculator
- 2 Student Result Management System
- 3 To-Do List (File based)
- 4 Password Generator
- 5 Number Guessing Game
- 6 Contact Book (Dictionary + File)

Next Step: Object-Oriented Programming

After completing this roadmap, you are ready to start OOP concepts such as classes, objects, inheritance, polymorphism, encapsulation, and abstraction.