Python Developer Roadmap

1. Master Core Python

- Variables, Data Types, Conditions, Loops

- Functions (def, lambda), Lists, Tuples, Dictionaries, Sets

- String operations, Exception Handling, File I/O

- List Comprehensions, Modules and Packages

Practice: HackerRank, LeetCode (Easy)

2. Object-Oriented Programming (OOP)

- Classes, Objects, Inheritance, Encapsulation, Polymorphism

3. Popular Python Libraries

- Data: NumPy, Pandas

- Visualization: Matplotlib, Seaborn

- Web: Flask, Django, FastAPI

- Automation: os, shutil

- APIs: requests, json

4. Version Control (Git + GitHub)

- git init, add, commit, push, branching, GitHub Repos

5. Choose Your Path

Path 1: Web Development

- Flask or Django, REST APIs, CRUD, Deployment

Python Developer Roadmap

Path 2: Data Science / Analytics

- NumPy, Pandas, Matplotlib, Scikit-learn, Jupyter

Path 3: Machine Learning & AI

- Math (Linear Algebra, Probability)

- scikit-learn, TensorFlow, PyTorch

Bonus Skills

- APIs, Databases (SQL), Testing (pytest), Docker, CI/CD (GitHub Actions)