E-LEARNIFY

Mastering Python Programming – From Basics to Data Science

Mastering Python Programming – From Basics to Data Science is a comprehensive course designed to take you from a complete beginner to a confident Python programmer. This course covers everything from core Python concepts to object-oriented programming, file handling, API development, and an introduction to data science. Through hands-on projects and practical examples, you'll build the skills needed for software development, automation, and data analysis roles.

Who Can Learn This Course?

This course is ideal for:

- **Beginners** with no prior programming experience
- **College students** or **fresh graduates** aiming to enter the IT industry
- **Working professionals** looking to switch to a programming or data-related role
- **Entrepreneurs** or **freelancers** wanting to automate tasks or build apps
- **Anyone interested** in building a strong foundation in Python and data science

No prior coding knowledge is required—just curiosity and a willingness to learn.

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One-time purchase, lifetime access!

We Provide Project files with the Course

Resources:

- Project Files

You will get Access to these Free Resources after Joining the course.

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Course Syllabus

Module 1: Python Fundamentals

1. **Introduction to Python**
   - History and evolution of Python
   - Features and real-world applications
2. **Installation of Python**
   - Installing Python on various OS
   - Setting up environment variables
   - Installing IDEs (PyCharm, VS Code)
3. **Jupyter Notebook Overview**
   - Installing Jupyter
   - Using cells, markdown, and basic operations
   - Code execution and visualization
4. **Variables, Keywords and Comments**
   - Declaring and initializing variables
   - Python keywords and naming conventions
   - Writing comments and docstrings
5. **Operators in Python**
   - Arithmetic, relational, logical, bitwise, assignment, and special operators
   - Operator precedence
6. **How to Take Input from User**
   - `input()` and `print()` functions

- Formatting output using `format()` and f-strings

Module 2: Control Flow and Data Types

7. **Conditional Statements**
   - `if`, `else`, `elif`
   - Nested conditions and shorthand syntax
8. **Looping Statements**
   - `for`, `while` loops
   - `break`, `continue`, and `pass` statements
9. **Data Types in Python**
   - Numbers, strings, lists, tuples, dictionaries, and sets
   - Type casting and type checking

Module 3: Functions and OOPs

10. **Functions in Python**
    - Defining and calling functions
    - Arguments, return values, and scope
    - `*args` and `**kwargs`
11. **Lambda Functions**
    - Syntax and use cases
    - Anonymous functions in Pythonic code

12. **Decorators and Generators**
    - Writing and applying decorators
    - `yield`, `next()` for generator functions
13. **Classes and Objects**
    - Basics of OOP
    - `__init__()` method and instance variables
14. **OOPS Concept**
    - Inheritance, polymorphism, encapsulation, and abstraction
    - Method overriding and super()

Module 4: File and Error Handling

15. **File Handling and Exception Handling**
    - Reading and writing files
    - File modes and context manager (`with`)
    - `try`, `except`, `finally`, `raise`, and custom exceptions
16. **Regular Expressions**
    - `re` module
    - Pattern matching, searching, and replacing
17. **Logging and Debugging in Python**
    - Using `logging` module
    - Setting log levels

   - Debugging techniques

18. **Python Testing**
    - Unit testing with `unittest`
    - Writing test cases and test suites
19. **Command Line Arguments**
    - Using `sys.argv`
    - `argparse` module for advanced parsing

Module 5: Advanced Python and Data Science

20. **Databases in Python**
    - Connecting with SQLite and MySQL
    - Executing queries using Python
21. **API Development in Python**
    - Basics of REST APIs
    - Using Flask to build simple APIs
22. **Pydantic (Data Validation Framework)**
    - Data models and schema validation
    - Type hints and data parsing
23. **Python Libraries for Data Science**
    - Overview of NumPy, Pandas, Matplotlib, Seaborn
    - Basic operations and data visualization

24. **End to End Project on Data Science**
    - Project problem statement
    - Data preprocessing, analysis, modeling, and visualization
    - Model evaluation and final report
25. **Important Concepts That Everyone Should Know**
    - Best practices in Python
    - Code optimization and readability
    - Preparing for interviews and real-world applications

How to Join the Course ?

Step 1:
Go to: https://elearnify.co.in/master-python-programming-in-30-days/

Step 2:
Click on the "Join Now" button.

Step 3:
Enter your details and complete the payment.

Step 4:
After payment, check your email (including the SPAM folder) for the password setup email.

Step 5:
Visit https://elearnify.co.in/ again, click on "My Learnings," and log in to access your course.

Happy Learning !