15-Day Python Programming Course

Day 1-2: Introduction to Python and Python Basics

- Overview of Python, Features, and Applications
- Setting up the environment (Installing Python and IDEs)
- Writing and running the first Python script
- Python Syntax and Code Structure
- Variables, Data Types, Constants
- Input and Output

Day 3-4: Operators and Control Flow Statements

- Operators in Python (Arithmetic, Relational, Logical, Bitwise)
- Conditionals (if, elif, else)
- Looping Constructs (for, while loops)
- Loop Control (break, continue, pass)

Day 5-6: Functions and Data Structures

- Functions in Python (arguments, return values, scope)
- Data Structures (Lists, Tuples, Dictionaries, Sets)
- List, Dictionary, and Set Comprehensions

Day 7-8: File Handling

- Reading and Writing Text Files
- File modes and operations (open, with)
- Working with Binary and CSV Files

Day 9-10: Modules, Libraries, and Error Handling

- Importing and using built-in modules (math, random, etc.)
- Installing and using third-party libraries (NumPy, pandas)
- Custom modules
- Error handling with try-except

Day 11-15: Project & Review

- Implementing a project using learned concepts
- Code debugging and optimization
- Final Q&A session and review

30-Day Python Programming Course

Week 1: Introduction to Python and Python Basics

- Overview of Python, Features, and Applications
- Setting up the environment and writing the first Python script
- Variables, Data Types, and Constants
- Operators (Arithmetic, Relational, Logical)

Week 2: Control Flow Statements and Functions

- Conditional Statements (if, elif, else)
- Looping Constructs (for, while loops)
- Functions in Python (arguments, return values, scope)

Week 3: Data Structures

- Lists, Tuples, Dictionaries, and Sets
- Comprehensions (List, Dictionary, Set)
- File Handling: Text, Binary, CSV files

Week 4: Modules, Libraries, and Error Handling

- Importing and using built-in modules (math, os, etc.)
- Installing third-party libraries (NumPy, pandas)
- Custom modules and Error handling (try, except, raise)

Day 29-30: Project & Review

- Working on a project using the learned concepts
- Code review and final Q&A session