

Unclassified

Introduction to Python

1. What is Python?

- Why Python is popular and its various applications.
- Setting up the Python environment (installing Python and a code editor).

2. Python Basics

- Python syntax and structure.
- Writing and running your first Python program.
- Using `print()` function for output.
- Variables and data types (int, float, str, bool).
- Basic operations: arithmetic, string concatenation, and comparison.

3. Control Flow

- Conditional statements (if, elif, else).
- Looping with for and while loops.
- Using break and continue statements.
- Understanding indentation and code blocks.

4. Data Structures

- Lists: creating, accessing, modifying, and iterating.
- Tuples: creating and accessing.
- Dictionaries: creating, accessing, modifying, and iterating.

5. Functions

- Defining and calling functions.
- Function parameters and return values.
- Understanding function scope.
- Using built-in functions and importing external modules.

6. File Handling

- Reading from and writing to files.
- Working with text files and CSV files.
- Handling exceptions and error handling.

7. Introduction to Object-Oriented Programming (OOP)

- Basic concepts of OOP: classes, objects, attributes, and methods.
- Creating classes and objects in Python.
- Encapsulation, inheritance, and polymorphism. Unclassified