

Python is a high-level, interpreted programming language known for its simplicity and readability. It supports multiple programming paradigms, including procedural, object-oriented, and functional programming.

1. Variables and Data Types:

- int, float, str, bool
- Lists, Tuples, Dictionaries, Sets

2. Control Flow:

- if, elif, else
- for and while loops
- break, continue, pass

3. Functions:

- Defining functions using def
- Arguments and return values
- Lambda functions

4. Object-Oriented Programming:

- Classes and Objects
- Methods and Attributes
- Inheritance and Polymorphism

5. Modules and Packages:

- import statements
- creating your own modules
- using built-in modules like math, os, random

6. File Handling:

- open, read, write, close
- with statement for file management

7. Exception Handling:

- try, except, finally
- raising exceptions

8. Python Libraries for Data Science:

- numpy, pandas, matplotlib, seaborn