

# Python Complete Course with Data Structures & OOPS

## Course Syllabus

### Unit 1 - Introduction to Python

- What is Python ?
- Why do you need python ?
- Where to use Python ?

### Unit 2 - Data Types, Variables, Basic Input-Output Operations, Basic Operators

- Hello World
- Python literals
- Operators
- Variables

### Unit 3 - Boolean Values, Conditional Execution, Loops, Lists and List Processing, Logical and Bitwise Operations

- Decision making
- loops
- Logic and bit operations
- Lists
- Sorting

### Unit 4 - Functions, Tuples, Dictionaries, and Data Processing

- Functions
- Function arguments and return variables
- Scopes
- Tuples and dictionaries

### Unit 5 - Modules, Packages, String, List Methods, Json and Exceptions

- Modules
- Packages
- Errors
- How to catch Bugs ?
- Exceptions
- Characters vs Strings
- Json

## **Unit 6 - Data Structures**

- Array
- Linked List
- Stack
- Queue
- Binary Tree
- Binary Search Tree
- Heap
- Hashing
- Graph
- Matrix

## **Unit 7 - The Object-Oriented Approach: Classes, Methods, Objects and Files**

- Introduction to object oriented programming style
- Procedural to Object oriented programming
- State, Behaviour and Identity of Objects
- Methods
- Inheritance
- Abstraction
- Polymorphism
- Exceptions handling
- Generators and closures
- File processing