# Core Python

## SECTION I

- Operators

- Types of Operators

- Python Arithmetic Operators

- Python Comparison Operators

- Python Assignment Operators

- Python Bitwise Operators

- Python Logical Operators

- Python Membership Operators (in, not in)

- Python Identity Operators (is, is not)

- Python Operators Precedence

- Data Types

- Variables

- Assigning Values to Variables

- Multiple Assignment

- Python Numbers

- Python Strings

- Accessing Values in Strings

- String Special Operators

- String Formatting Operator

- Triple Quotes

- Built-in String Operations

- Python Lists

- Accessing Values in Lists

- Updating Lists

- Delete List Elements

- Basic List Operations

- Indexing, Slicing, and Matrixes

- Built-in List Functions & Methods

- Python Tuples

- Accessing Values in Tuples

- Updating Tuples

- Delete Tuple Elements

- Basic Tuples Operations

- Indexing, Slicing, and Matrixes

- No Enclosing Delimiters

- Built-in Tuple Functions

- Python Dictionary

- Accessing Values in Dictionary

- Updating Dictionary

- Delete Dictionary Elements

- Properties of Dictionary Keys

- Built-in Dictionary Functions & Methods

## Loops and Decision Making

- if statement

- else statement

- nested if statement

- while loop

- for loop

- nested loops

- Loop Control Statements

- 1) break statement

- 2) continue statement

- 3) pass statement

# SECTION II

## Functions

- Defining a Function

- Syntax

- Calling a Function

- Pass by reference vs value

- Function Arguments

- Required arguments

- Keyword arguments

- Default arguments

- Variable-length arguments

- The return Statement

- Scope of Variables

- Global vs. Local variables

## Python Modules and Packages

- Framework vs Packages

- Folium Introduction

- Why are modules used?

- Creating modules

- The import Statement

- The from...import Statement

- The from...import * Statement

- Locating Modules

- The PYTHONPATH Variable

- Namespaces and Scoping

- The dir( ) function

- The globals() and locals() Functions

- The reload() Function

- Packages in Python

## Basic OOP Concepts

- Creating class in Python

- Documented String

- Private Identifier

- Constructor

- Inheritance

- Polymorphism

## Decorator, Iterator and Generator Anonymous Function

- Lambda

- Map

- Filter

- Reduce

# SECTION - III

## File Manipulation

- Opening Text File

- Working with a File on Python

- The open function

- File modes

- The file object attributes

- close() method

- write() method

- read() method

- Files: Input

- Files: Output

- Reading files

- Renaming & deleting files

- Writing into a file

- remove() method

## Python GUI

- Basic Operations using Tkinter

- Buttons and Textbox

- Menu Bar

- Message Box and Radio Button

- Checkbox and Event Creating

- Creating Application in GUI

## SQL and Python

- Overview of SQLite

- Integrating Python with SQLite

## Other Concepts

- Errors and Exception Handling

- Standard exceptions

- Assertions in Python

- The assert Statement

- What is Exception?

- Handling an exception

- Syntax

- The except Clause with No Exceptions

- The except Clause with Multiple Exceptions

- The try-finally Clause

- Argument of an Exception

- Example with Tkinter Application

- Regular Expression