

PYTHON

Introduction To Python

- What is Python?
- Where and how it is used?
- Why python over others?
- Alternative Python Implementations.
- Version 3.X

Installation & Environment Setup

- Introduction of PYPI
- Introduction of Pep8
- Introduction to IDE (Jupyter-notebook-pycharm)

Operations with Data Types

- String functions
- List Comprehension
- Dictionary Comprehension

Program Flow Control

- Conditional blocks (if else temporary operators)
- Loops
- Block Structure

Functions

- In build functions
- Functions definition & Function calls
- Argument Types
 1. Fixed number of Arguments
 2. Default Arguments
 3. Variable Arguments
 4. Keyword Arguments
- Lamda Functions
- Inner Functions

Decorators

Generators

Module & Packages

- In Built
- User Defined
- Third Party

Data Types

- int, float, complex number
- String data type
- List and list slicing
- Tuple
- Dictionary
- Set data types

Classes

- Self-keywords
- OOps (Encapsulation, Abstraction, Inheritance, Polymorphism)
- Single Responsibilities
- Introduction to SOLID Principles
- Inversion of Control-DI

Exception Handling

- Exception Vs Error
- Try-except
- Finally block

File Handling

- Open, Read, Write, Append
- File Operation using.csv & txt

Database Connectivity

- MySQL, DB
- Connectivity to MySQL using PyMySQL
- CRUD Operations

JSON Data Handling

- With JSON Module

Web Scraping (Python)

Introduction to Data Science Libraries

- Introduction to numpy, pandas & scikit learn

Projects (Frameworks with CRUD)

- Django, Flask