

Chapter 1: Introduction to Python

- › Install Python and Environment Setup
- › Install Visual Studio Code
- › What are variables?
- › Python Identifiers, Keywords and Indentation
- › Comments and document interlude in Python
- › Getting User Input
- › Operators in Python

Chapter 2: Data Types in Python

- › Numbers
- › Strings
- › Built-in functions of Strings
- › Boolean
- › Understanding Iterators
- › **Arrays in python**
- › List
- › Tuple
- › Dictionary
- › Set

Chapter 3: Decision making Statements

- › Simple if
- › if-else
- › if-elif-else
- › Practices

Chapter 4: Looping Statements

- › working with for Loop
- › working with while Loop
- › Range function
- › Iterating over Python Arrays
- › Loop Control Statements
- › Break and Continue
- › Nested loops
- › Pass keyword

Chapter 5: Python Functions

- › Types of functions
- › Defining and calling Function
- › Argument passing methods
- › Return statement in Function
- › The anonymous Functions
- › Scope of variables
- › Practices

Chapter 6: Python Files

- › Introduction to file handling
- › Reading and Writing files
- › File modes
- › File methods
- › Working with Directories
- › Practices

Chapter 7: Modules and Packages

- › Using PIP Module
- › Use of Import
- › Built in and External Modules
- › Familiar with Date Time Module
- › OS Module

Chapter 8: Python Object Oriented

- › Overview of OOPS
- › Creating Classes and Objects
- › Methods and Attributes
- › Self variable
- › Constructor
- › Inheritance
- › Polymorphism
- › Abstraction
- › Encapsulation

Chapter 9: Django Web Framework in Python

- › Introduction to MVT architecture
- › Django folder structure and flow of control
- › Basic HTML,CSS,JS
- › Template Rendering.
- › CRUD Operations using Django.
- › Working with Django forms
- › Cookies and Session in Python
- › ORM in Python
- › Table Relations in django
- › Working with Data frame using Pandas
- › Django REST Framework
- › Writing Serializers and REST API Methods.
- › Decorators
- › Token generation.
- › Routing API's
- › Version Control-Git (Bitbucket)
- › Testing Tool- Postman
- › Sample Projects
- › Live Project.

Chapter 10: Using Databases in Python

- MySQL
 - Python MySQL Database Access
 - Install the MySQLdb and other Packages
 - Create Database Connection
 - Working with MySQL queries using python
- MongoDB
 - Python MongoDB Access
 - Install MongoDB
 - Create Database Connection
 - Working with Mongo queries using python

Application Development & Evaluation

- **E-Commerce Application**
Creating simple Home page, Content page, Product Listing page, Product information page
- **Ticket Management like Service Now**
Login, Create ticket, Edit ticket, View ticket
- **Internet Banking Application**
Login, Add beneficiary, Fund transfer, Balance Checking
- **Video based Learning Management System**
Login, Upload Video chapters, Student Registration, Student Course Purchase , Student Login, View Course Videos