

Python

Over View of Python

- Introduction to Python
- Compiler vs Interpreter
- Pros and Cons
- Installing Python
- Playing with Python shell

Python Execution Model (running scripts)

- Structure of a Python Script
- Running Python script

Getting Started

- Variable and types
- Reading from keyboard (raw_input)
- Numbers and Strings
- Comments Docstrings
- Print Statement

Operators

- Assignment Operator
- Arithmetic Operators
- Relational Operators
- Logical Operator
- Bitwise operator

Control Statements

- About Flow controls
- Indentation
- If statements(if,ifelse,elif)
- While loop
- For loop
- Break,continue
- Range() function

Data Structures

- Lists
- Tuples
- Set
- Dictionaries

Functional Programming

- General Syntax
- Types of functions
- Function Arguments
- Global vs local variables

Package & Modules

- Introduction to Module
- Using module
- Importing predefined modules and usage(Sample modules)
- Creating your own modules

- Package creation and Importing

Some of Useful Modules

- OS module
- Sys
- CSV
- Datetime
- Random
- PDB

Working with Files

- General Syntax
- Create and writing Files
- Reading Files

Exception handling

- Importance of Exception handling
- Try,Catch(except),Finally
- User Defined Exception

Regular Exceptions

- Matching vs Searching
- Parsing Data
- Re.sub

Object Oriented Programming

- Introduction OOPS

- Access Specifiers
- Instance Methods
- Inheritance
- Method Overriding
- Destructors

Database:

- Installing Postgresql
- Connecting to Database(Psycopg2)
- CRUD Operations (ADD, Delete, Fetch...)

Advanced Concepts

- Generators
- Decorators
- List comprehension(Map,Filter,Reduce)

Django:

Course: Introduction Django

- Introduction of Django
- Installing Django
- Explaining Architecture of Django
- Creating Django Project
- How to run Django Project
- Overview of Django Structure(Settings,manage,urls,init,wsgi)
- Django Admin overview
- How to Create APPS
- Models and Migrations

- Playing with Django ORM API
- Creating Views
- Http Response, Render to Response
- Templates
- Forms and their validation
- Pagination, Sessions, Authentication
- Simple web app with CRUD Operations