



Python Course Content

Python syllabus

Core:

- Introduction
 - History
 - What is Python?
 - Advantages
 - Compiler vs Interpreter
 - Python2 vs Python3
 - Setting up Environment
- Data Types
 - Variable declaration
 - Numeric Types
 - Int,
 - Long,
 - Float,
 - Complex
 - Sequences
 - str,
 - byte,
 - list,
 - tuple
 - Sets
 - set, frozen set
 - Mappings
 - dictionary
- Operators
 - Arithmetic Operators
 - Comparison (Relational) Operators
 - Logical (Boolean) Operators
 - Bitwise Operators

- Assignment Operators
 - Special Operators
- Conditional Statements
 - If
 - If-else
 - If -elif-else
 - Nested If-else
- Looping
 - For
 - For- else
 - While
 - Nested Loops
- Control Statements
 - Break
 - Continue
 - Pass
- String Manipulation
 - Accessing Strings
 - Formatting
 - String Slices
 - Methods
- Lists
 - Accessing Lists
 - Working with lists
 - Methods
- Tuple
 - Accessing Tuple
 - List vs Tuple
 - Methods
- Dictionaries
 - Introduction
 - Working with dictionaries
 - Methods
- Functions
 - Defining a function
 - Calling a function
 - Types of functions

- Function Arguments
 - Anonymous functions
 - Global and local variables
- File Handling
 - Opening and closing files
 - Reading and writing files
- Exception Handling
 - Exceptions
 - Try-Except
 - User Defined Exception
- Modules
 - Module vs Script
 - Importing modules
 - Math, Random
 - os, sys
 - debugging
- Regular Expressions
 - Introduction
 - Match function
 - Search function
 - Find all function

- Advanced:
- OOPS Concept
 - Class and Object
 - Attributes
 - Inheritance
 - Overloading vs Overriding
 - Static methods
 - Instance Method vs class method vs static method
- Iterators,
- Generators,
- Decorators
- Database
 - Introduction

- Connections
- Executing queries
- Transactions
- Handling Error
- Threading
 - Threading Module
 - Synchronizing threads
 - Thread vs sub process
- Sample: Sending Email
- Interview Questions and programs

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DJANGO COURSE CONTENT

Django: Web Framework

Project Oriented

- **Creating Rest API with Django**
 - Introduction to Rest Guidelines
 - Implement http verbs using Django
 - GET,
 - POST,
 - PUT
 - UPDATE
 - DELETE
- **Creating Web App with Django**
 - Django=>Web Frameworks
 - installing Django
 - setting up environment and project
 - Django Design Patterns
 - Admin Interface
 - Creating new page
 - Add new Page
 - understanding Flow of Control
 - MTV (Model, Template View) Pattern
 - Introduction to MTV Pattern
 - Introduction and Setting up Models
 - Model API
 - Migrations
 - Creating and Running Migrations
 - Creating Views
 - Passing Data from View to Templates
 - Templates
 - Template for Tiles Listing Page
 - Template Variables and Data binding
 - Templates with For Loop and If condition
 - Templates with Image and CSS styles
 - Routing and Navigation
 - URL Routing

- Tile Detail page with URL Routing
- Pass and Retrieve URL Parameters
- URL Mapping

- Authentication and Validations
 - Login Page with Authentication
 - Authenticate store and retrieve the token
 - Validations on Login Page for required and pattern
 - Handling Form Submission

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