



Python Programming (Complete course)

FEE: 6000. /



Basics of Python

- History of Python and why to learn python
- How to run python programs with IDLE
- Variable, Keywords
- Statements, Comments & Indentation
- Data types, Input and output
- Static Typing vs Dynamic Typing

Operators

- Arithmetic operator, Relational Operator, Assignment Operator
- Logical operator, Bitwise operator, Membership Operator, Identity Operator

Control Flow

- If statement, if-else, if-elif-else, Nested if else
- While loop, For loop, Nested while loop, Nested for loop
- Break, Continue and Pass

Numeric Type & Strings

- Numeric type basics, Hexadecimal, Octal and Binary Notation
- Complex Numbers, Type casting Numeric Functions
- Random number generation(Using Random Modules)
- Defining a string, Different ways to create string
- Escape sequence, Raw string String methods, String formatting Expressions
- Assignments

List

- Defining & Creating list, Accessing list elements of list
- List methods, Functions used with list
- List comprehension
- Implementation of stack and queue using list
- Matrix operations using list

Tuple

- Defining & Creating a tuple
- Accessing elements of tuple, What is Immutability
- Tuple Methods, Functions used with tuple

Dictionary & Sets

- Defining & Creating a dictionary
- Accessing elements of dictionary
- Dictionary methods
- Dictionary Comprehension
- Defining & Creating set
- Set operations & methods
- Set comprehension
- Compares of all python data type
- Assignments

Function

- Basics Defining function
- Function call Return statement
- Function with parameter and without parameter

- local and global variable
- Recursion, Anonymous (lambda) function
- User define functions

Module and Packages

- Defining module, Importing module
- Dir(), Module search path, Sys module, Os module
- Namespace
- Defining and create package
- Installing third party packages
- Assignments

File handling

- Defining a file, Types of file and it's operations
- Opening a File, Closing file, File modes, File attributes
- Writing to file, Reading from file, Appending to file
- File positions, Binary file
- Pickle module

Exception Handling

- Defining an exception & Default exception handler
- Exception handling techniques
 - Detecting Exception (try)
 - Catching exceptions (except)
 - Catching multiple exceptions
 - Raising exception (raise)
 - Finally block
- User defined exceptions

Object Oriented Programming

- OOPS concepts Defining
- Class Creating object, Constructor
- Method vs function Calling methods
- Instance attribute vs class attribute
- Instance method vs class method

- Private attribute and method Static Method
- Method Overriding, List of objects Inheritance
- Examples

GUI Programming with Tkinter

- Introduction to tkinter
- Creating a window Tkinter widgets Label
- Button Entry MessageBox List, Radio Button, CheckButton
- Creating Frame, Creating Menu Assignments on tkinter
- Examples

Data Base Programming: NoSQL

- Overview of MongoDB, Environment setup, MongoDB compass
- Create database, Create Collection
- Working with python
- Insert document, Query document, Delete document
- Update document, Projection
- Mini project

Data Base Programming: MySQL

- Performing sql operations, Introduction to mysql, Installing mysql
- Creating database using mysql, Introduction to mysql.connector module
- Connecting to database by using mysql, Creating table by mysql
- Connecting mysql database from python, Creating table
- Performing sql operations
- Examples

Networking

- Introduction to Network programming
- Ip address and it's types, Port Number, Socket module
- Server socket, Client socket, Socket methods
- Create server-client examples

Django

- Features of Django, How WEB Works, What is Full Stack
- Why Choose Django ?
- Installation of Django Frameworks, Installation and configure Django environment
- Different IDE's (ATOM ,Pycharm)
- Setting up Django Projects and Application
- Creating Views and Mapping URL's, Using Simple Templates and Tages
- Serving Static Media Files, How Django Server Works

Django Models and Databases

- Django model introduction, How to use Django Model
- Connecting Database to Django, Use population Script
- Templates used with Django (MTV) Model templates View
- Creating Administration with Django (Mini Projects)

Additional Concept

- What is Data science
- What is Analytics
- What is Machine learning
- Numpy, Pandas, Matplotlib, Keras

Live project with python



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