Python Programming Language

BASIC & ADVANCED

Corporate Training with Certification

- ✧ Detailed Explanation with real time Examples
- ✧ Live video Recording of every class
- ✧ Topic wise Exercises
- ✧ Assignments & Tasks
- ✧ Interview questions /Projects

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✧ INTRODUCTION

- Overview of Python
- Python Features and Application areas
- Installing Python software's
- Difference between IDLE vs IDE
- Types of IDE's for Python
- Executing Python from the command line
- Executing Python from the IDLE
- Executing Python from the Editor (Pycharm IDE)

✧ BASIC PYTHON SYNTAX

- Basic Syntax of Python Program and Rules
- Single & Multiline Comments
- Keywords in Python and Explanation
- Naming Conventions and Scope
- Variables declare and Assign values
- Type(),id() Function
- Del keyword with example

Python Standard Data Types (Intro)

- Numbers(Decimal,float,complex)
- Boolean
- Sequence type(String, List, Tuple)
- Set data types
- Dictionary Data Type

✧ INPUT/OUTPUT FUNCTIONS

- Input() Function
- Taking single input from console
- Taking Multiple input from console

  (Using split(), List comprehension)
- Print() function
- Print data using end, sep parameters and differences.
- Print data using format() Method and Explanation.

✧ OPERATORS

- Arithmetic operators
- Relational operators
- Logical operators
- Assignment operators
- Short Hand Assignment Operators
- Bitwise Operators

✧ Special Operators in Python:

- Membership operators
- Identity operators

✧ CONDITIONAL STATEMENT

- Simple if
- If…else
- if elif…ladder
- Nested if statement
- Single line if Statement

✧ LOOPING STATEMENT

- While loop
- For loop
- Nested loops
- Pattern Programs

✧ Loop Control Statements

- Break
- Continue
- Pass

✧ STRINGS

- Introduction to Strings
- Accessing values in String
- Updating stings
- Escape Characters
- Triple Quotes, Unicode string
- String Special operators
- String Formatting Operators
- Built in String Functions and methods

➢ LISTS

- Introduction to Lists
- Accessing Values in Lists
- Updating List
- Deleting List Elements
- Basic List Operations
- Indexing, Slicing and Matrixes
- Nested lists
- Built in List Functions and methods

➢ TUPLES

- Introduction to Tuples
- Accessing Values in Tuples
- Updating Tuples
- Delete Tuple Elements
- Basic Tuple Operations
- Indexing, Slicing and Matrixes
- Built in Tuple Methods and Functions
- Difference Between Tuple Vs LIst

➢ SETS

- Introduction to Sets
- Accessing values of Sets
- Updating Sets
- Deleting Set Elements
- Basic Set operations
- Built in Set Functions and methods

➢ DICTIONARY

- Introduction to Dictionary
- Accessing values in Dictionary
- Updating Dictionary
- Delete Dictionary Elements
- Basic Dictionary Operations
- Properties of Dictionary Keys
- Built in Dictionary Function and Methods

✧ FUNCTIONS

- **Defining functions**
- **Calling function**
- **Pass by Reference vs Value**
- **Types of functions**
  - Function without Arguments
  - Function with Arguments
  - Function with keyword Arguments
  - Function with default Arguments
  - Function with variable length Arguments(*)
  - Function with keyword Variable Length Arguments(**)
- Return statement
- **Scope of variables**
  - Global variables
  - Local variables
- Passing collections to a function
- Passing functions to function
- Lambda()Function
- Filter() Function
- Reduce() Function
- Iterators
- Generators
- Yield statement

✧ MODULES

- Usage of modules
- Creating user defined module
- Setting path
- Importing module
- From…import
- Creating alias name

✧ PACKAGES

- Creating a package
- Creating sub packages
- Usage of _init_.py file
- Importing packages
- Usage of packages
- Setting path

✧ STANDARD MODULES

- Math
- Random
- Date and time
- Os and sys
- String
- Glob

✧ FILE HANDLING

- What is file
- Printing to the Screen
- Reading Keyboard Input
- Opening and Closing files
- Access modes in Files
- Writing data to files
- Reading data from files
- Renaming and Deleting Files.
- Inbuilt File Methods and Functions

ADVANCED -PYTHON TUTORIAL

✧ OBJECT ORIENTED

- Introduction to OOP Technology
- Creating classes
- Creating object
- Private and public properties and method
- Class attributes and methods
- Class variables
- Self-argument
- Constructor
- Parameterized constructor
- Destructor
- Inheritance
    - Single inheritance
    - Multiple inheritance
    - Multilevel inheritance
    - Hierarchal inheritance
    - Inheritance with constructors
    - Polymorphism
- Function over loading
- Function over riding

✧ EXCEPTION HANDLING

- What is exception?
- Need of exception handling with Examples
- Predefined exception names
- Except, try, finally clause
- Handling multiple exceptions
- User defined exceptions
- Raise, assert statements

✧ MULTI-THREADING

- What is Thread?
- Need of Multithreading with Examples
- Starting a thread
- Threading module
- Synchronizing threads
- Multithreaded priority queue
- Thread Creations Types

✧ REGULAR EXPRESSIONS

- What is regular expression
- Importance of Regular Expressions with examples
- Regular Expressions(search, Match, findall)
- Built-in Functions (findall(), search(), split(), sub())
- Findall function()
- Match function
- Match function Methods(span(),.group(),.string())
- Search function
- Regular expressions re.search() Vs re.findall()
- Sub function
- Splitting a string
- Flags
- Email and Phone Number checking

  Examples

✧ DATABASE

- Introduction
- Connections
- Executing queries
- Transactions