

CORE & ADVANCE PYTHON

MOD. 1 # CORE PYTHON (for Logic Building and Programming Skills)

Introduction

- History
- Features Setting up path
- Working with Python Basic Syntax
- Variable & Data Types
- Operators (Arithmetic, Relational, Membership, Bitwise etc.)
- Punctuators, Indentation, Comments

Conditional Statements

- If
- If- else
- If-elif....elif....else
- Nested if-else

Iterative Statements (Looping)

- For
- While
- Loop else statement
- Nested loops

Control Statements

- Break
- Continue
- Pass

String Manipulation

- Accessing Strings
- Basic Operations
- String slices
- Function and Methods

Lists

- Introduction
- Creating List, Accessing list
- List Operations
- Function and Methods
- Working with lists (List Programs)
- Set Operations on List
 - Union, Intersection, Difference

Tuple

- Introduction
- Accessing Tuples
- Operations
- Functions and Methods

Dictionaries

- Introduction (Key: Values)
- Accessing values/elements
- Dictionaries Properties
- Functions and Methods

Sorting & Searching Concepts

- What is Sorting
- Bubble Sort
- Insertion Sort
- Binary Search

Functions

- Defining a function
- Calling a function
- Types of functions
- Function Arguments
- Scope of Variables
 - Global and local variables
- Returning Values from function

Python Libraries/ Packages/ Modules

- Python standard libraries
- Structure of a module
- Importing module
- Math module
- Random module
- Urllib and WebBrowser modules
- Packages
- Creating a Python Library/package(s)
- Importing Python Libraries

Input-Output (File Handling)

- Data Files (Text and Binary Files)
- Opening/Closing a File
- Reading data from File
- Writing data in a file from keyboard
- File Handling Functions
- Standard Input, Output and Error streams

Exceptional Handling

- Exception
- Exception Handling Except clause
- Try ? Finally clause
- User Defined Exceptions

MOD. 2 # ADVANCE PYTHON

OOPs Concepts

- Class and object
- Constructor & Destructor
- Attributes and Iterator
- Inheritance (Multi Level, Multiple)
- Data Hiding (Encapsulation)
- Overloading
- Overriding

Multithreading

- Thread
- Starting a thread Threading module
- Synchronizing threads
- Multithreaded Priority Queue

Python CGI

- Introduction
- Architecture
- CGI environment
- Variable Cookies
- File upload
- Patterns

Python Arrays (NumPy)

- Creating NumPy Arrays
- Indexing & Slicing
- NumPy Data Types
- Join & Split
- Searching, Sorting & Filtering

Python Matplotlib

- Matplotlib Pyplot
- Matplotlib Plotting
- Matplotlib Markers
- Matplotlib Line
- Matplotlib Scatter

- Matplotlib Bars
- Matplotlib Pie Charts

Database Connectivity with MySQL

- MySQL Operations
- Database Connection
- Creating New Database
- Creating Tables
- Inserting Records in Table
- Fetching Records from Database
- Using Python
- Read Operation using Select, Where, OrderBy etc
- Update Operations
- Join Operations
- Performing Transactions

Python Pandas

- Pandas Series
- Pandas Dataframes (2-Dimensional)
- Reading CSV files
- Analyzing Data
- Cleaning Data

GUI Programming (Intro)

- Introduction
- Tkinter programming
- Tkinter widgets

Python MongoDB

- CRUD Operations
- Create, Read, Update & Delete
- MongoDB Query

Minor Project Work

DURATION

Part Time: (3-3.5 Months X 3 Days/week X 1.5 Hrs) | **Full Time:** (2 Months X 5-6 Days/week X 1.5 Hrs)

**ADD: PLOT No. 8, VAISHALI ENCLAVE, METRO ROAD, PITAMPURA, DELHI-110034
(NEAR GULAB SWEETS, OPP: METRO PILLAR NO. 350)**

Website: www.niceitservices.com **Ph:** 9873459848, 7838152268