



ROADMAP TO BECOME PYTHONIST





PYTHON INTRODUCTION

Module 1: Python Fundamentals

- Brief Intro to Python
- Features - Versions - Diff between 2.x vs 3.x
- Install Python and Environment Setup
- Working with Python
- Basic Syntax - Variable and Datatypes - Operators

Module 2: Program Flow Control for Python

- Python Basics Quiz
- Conditional blocks using if, else and elif
- Loops: - for - while - Nested Loops
- Loop Manipulations: - pass, continue and break
- Programming using Conditional and Loops block

Module 3: Number Manipulation String Manipulation

- Loops, Conditional block - Quiz
- Number and Mathematical Functions
- String Manipulation: - Accessing String - Basic Operations
- String Slices and Understanding String in-built methods
- Programming using String inbuilt Functions.

Module 4: Data Structure List, Set and Tuple

- String Functions - Quiz
- Introduction of List, Set and Tuple
- List and Tuple Manipulations using in-built methods
- Set manipulations using in-built methods
- Programming using List, Tuple and Set DS

Module 5: Data Structure Dictionaries / Map Manipulation

- List, Set & Tuple Functions - Quiz
- Introduction of Python Dictionaries
- Accessing Values in Dictionaries and Manipulations
- Functions and Properties
- Hands-on: Programming using Dictionaries

**Module 6:
Python built-in
Functions**

- Dictionaries - Quiz
- User Defined functions and Python Package functions
- Defining and Calling Function - Types of Functions
- Functions Arguments and Anonymous Functions
- Global vs. Local Variables

**Module 7:
Python in-built
Modules**

- Built-In functions - Quiz
- Organizing Python Project into Modules
- Importing own modules as well as external modules
- Understanding Packages
- Lambda Function in Python

**Module 8:
File Operations
Input and Output**

- Modules and Lambda Functions - Quiz
- Reading config files in Python
- Write log files in Python
- Design Read Function: - read(), readline() and readlines()
- Design write function: - write() and writelines()
- Manipulate file pointer using seek

**Module 9:
Python
Exception Handling**

- What is Exception?
- Handling an Exception using try... except...else - try-finally clause
- Argument of an Exception
- Python Standard Exception - Raising an Exceptions
- User-Defined Exceptions

**Module 10:
Python
OOps Concept**

- Concepts of Class, Object and Instances
- Constructor, Class attributes and Destructors
- Inheritance, Overlapping and Overloading operators
- Adding and retrieving dynamic attributes of classes
- Programming Using Oops Supports

**Module 11:
Regular Expression**

- What is Regular Expression?
- The Match Function
- The Search Function
- Match vs Search
- Search and Replace
- Modifiers and Patterns

**Module 12:
Python Database
Interaction**

- Introduction to RDMS
- Connections - Executing queries - Transaction and Handling Error
- Interact with NoSQL database

**Module 13 :
Introduction to
REST Services**

- Introduction REST
- REST Architecture
- Implementing a simple REST service
- Building full-fledged GET, POST, PUT & DELETE methods using Flask

**Module 14 :
Python
Multithreading**

- Introduction to Thread
- Starting a Thread
- Threading module
- Synchronizing of threads
- Multithreaded Priority Queue