

Python Course Module

Overview

In this course, Participant will learn to write reusable scripts with Python. Through intensive exercises, participant learn to use Python in your operating system and application environments as well as apply built-in functions of the language and make use of external modules.

Pre-Requisites

Students should already be comfortable using the operating system (Linux, Unix, Windows, Solaris, Mac OS X, etc.) on which they will be running Python. While not mandatory, basic skills with at least one other programming language are desirable.

1. Python – An Introduction

- Python: An Overview
- History of Python
- Version of Python
- Feature of Python
 - Simple
 - Open Source
 - High Level Programming Language
 - Portable
 - Object Oriented & Procedure Oriented
 - Interpreted
 - Easy to Maintain
- Comparisons of Python with Other Language
 - Java
 - C++
 - Java Script
 - Perl
- Execution of Programs
- Python Comment

2. Python Variables & Data Types

- What is variables

- Assign Variables
- Data Types:
 - Numeric Data Types
 - Boolean Data Types
 - Compound Data Types
 - Dictionaries
 - Sets
 - Array

3. Operators:

- Types of Operators
 - Arithmetic Operators
 - Relational Operators
 - Assignment Operators
 - Logical / Boolean Operators
 - Identity Operators
 - Membership Operators
 - Bitwise Operators
- Operators Precedence & Associativity
 - Precedence of Operators
 - Associativity of Operators

4. Python Conditional Statements:

- The If Statements
- The if-else Statements
- The Elif Statements
- The Nested If – Else Statements

5. Python Looping Concept:

- Python for Loop
- Python While Loop

6. Python Control Statements:

- The Break Statements
- The Continue Statements
- The Pass Statements

7. Python Data Type Casting

8. Python Number

- Mathematical Function
- Random Function
- Trigonometric Function

9. Python String

- Accessing Strings
- Basic Operations
- String slices
- String Built-In Function

10. Python List

- Introduction
- Accessing list
- Operations
- Working with lists
- List Slices
- Aliasing
- Cloning
- List Comprehension
- Deleting List
- Built-in Function

11. Python Tuple

- Introduction
- Creating Tuple
- Accessing Tuple
- Modifying Tuple
- Deleting Tuple
- Built-in Function

12. Python Dictionary

- Introduction
- Creating Dictionary
- Accessing Dictionary
- Deleting Dictionary
- Built-In Function

13. Python Sets

- Introduction
- Declaring an Sets
- Operation on Sets
- Built-In Function
- Python Date & Time
 - The Time Module
 - The Calendar Module

- Python Function
 - Defining a function
 - Calling a function
 - Types of functions
 - Function Arguments
 - Anonymous functions
 - Global and local variables

- Module
 - Introduction
 - The Import Statement
 - The From...Import Statement
 - The From...Import* Statement

- File Handling (Input / Output)
 - Introduction
 - Opening & closing Files
 - Reading & writing Files
 - Rename & Remove Files
 - The Directories

- Exception Handling
 - Error in Python Program
 - Syntax error
 - Exception
 - Types of Exception
 - Handling Exception in Python
 - Raising Exception
 - User Defined Exception

- OOPs Concepts
 - Class and object
 - Attributes
 - Inheritance
 - Overloading
 - Overriding
 - Interface & Abstraction
- Multithreading
 - Thread
 - Starting a thread
 - Threading module
 - Synchronizing threads
 - Multithreaded Priority Queue
- Python Mail Sending Program
 - Introducing
 - Execute mail program
 - Attachment with file
 - Sending multiple mail
- Regular Expression
 - Match function
 - Search function
 - Matching VS Searching
 - Modifiers
 - Patterns
- Database Connection
 - Introduction
 - Connections
 - Executing queries
 - Transactions
 - Handling error
- Interacting with Networks
 - Socket in Python
 - TCP/IP Client & Server

- Creating a Client / Server Program
- Executing Socket Program

- GUI (Graphical User Interface)
 - Introduction
 - Tkinter programming
 - Tkinter widgets

- Python Web Scraping
 - Introduction
 - Scrape all the details of any website
 - Built-in Function

- Python for Image Processing
 - Introduction
 - Image processing
 - Loading Video
 - Reading image
 - Saving a capture video

- Introduction Python Data Science
- Introduction with Python Matching Learning
- Introduction with Python Artificial Intelligent