Introduction to Python Programming

Description

Python is now one of the most commonly used programming languages in the world. Its versatility is impressive and makes it into a popular language throughout a broad domain spectrum: data analysis, system and network administration, web and game development.

Moreover, writing Python code is fun and relatively easy, particularly when compared with some other programming languages. This intensive, hand-on course provides a solid foundation for programming in Python. In this Python training course, students learn to program in Python.The course is aimed at students new to the language who may or may not have experience with other programming languages.

Delegates will learn

- how Python works and what it’s good for.
- Understand Python’s place in the world of programming languages.
- to work with and manipulate strings in Python.
- to perform math operations with Python.
- to work with Python sequences: lists, arrays, dictionaries, and sets.
- to collect user input and output results.
- flow control processing in Python.
- to write to and read from files using Python.
- to write functions in Python.
- to handle exceptions in Python.
- to work with dates and times in Python.

Outline

Language Overview

- Why Python is popular on many areas?
- Big Data and Database Management
- Data Science and Analysis
- Machine Learning (ML)
- Artificial Intelligence (AI)
- Network Programming and System Automation
- Philosophy and syntax of Python
- Multi-paradigm Language
- Procedural Programming
- Object Oriented Programming
- Functional Programming

Standard Data Types

- The Python Standard Library
- Built-in Functions and Modules
- Basic Operators and Type Casting
- Numeric Data Types and Functions
- String Data Type and Functions

Flow Control

- if-else
- For loop
- While loop
- break and continue statements

Functions

- Function Definition
- Scope Rules
- Recursion
- Random Module Functions

Lists and Tuples

- Immutable vs Mutable Types
- List and Tuple Functions
- Comparison
- Conversion
- Multi-dimensional Lists and Tuples

Dictionaries

- Key and Value Pairs
- Dictionary Funtions
- Sorting and Converting

External Libraries

- Important Libraries
- How to Install and Import
- Examples

Basic File Operations

- Open a File with r/w/a/b Modes
- File Operations
- File and Directory Methods

Exception Handling

- Exception Types
- Multiple Exceptions
- try and except block
- Finally expression

Data Formats

- CVS
- JSON
- YAML
- XML
- Labs with JSON Files

Dates and Times

- Understanding Time
- The time Module
- The datetime Module
- Working with Timezones
- Arithmetic with Time and Dates