Compuserve Pvt Ltd.

Course Duration : 40 Hrs

COMET CERTIFIED PYTHON PROGRAMMING
COURSE BROCHURE

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Overview

Python is one of the powerful programming languages that is high-level, open-source, and most commonly used for **web development, scientific and mathematical application development, etc.**

One of the great advantages of this programming language is it provides excellent library support and has a large developer community. It also provides easy integration with web services and GUI-based desktop applications.

Python is fast, easy-to-use and the most preferred programming language for developing projects by many companies such as **YouTube, Instagram, Pinterest, and Quora, etc.** Because of its excellent features, Python is considered an easy to learn programming language for beginners and is also sophisticated enough for experienced professionals to use.

Apart from web development and desktop app development, Python is extensively used in the Data Science field and is used for developing Machine Learning projects. Because of its huge popularity, many IT professionals are learning this programming language to build their career as a Python developer.

Course Objective

This course is designed to provide Basic knowledge of Python. Python programming is intended for software engineers, system analysts, program managers and user support personnel who wish to learn the **Python programming language.**

Audience Profile

This course is for Students/IT Professionals who is interested in **Python Programming.**

Prerequisites

There are no such prerequisites to learn Python but having a basic knowledge of any programming language concepts like what is a loop, what if and else does, how operators are used, etc. will be helpful. If you have strong command over the basics of any programming language, you can learn Python quickly.

GETTING STARTED

- What is Python
- Install Python
- Setup VS Code for Python
- Develop Python Hello World Program

PYTHON FUNDAMENTALS

- Python Syntax
- Variables
- Strings
- Numbers
- Boolean
- Constants
- Comments
- Type Conversion

VARIABLES & MEMORY MANAGEMENT

- References
- Garbage Collection
- Dynamic Typing
- Mutable and Immutable
- Python is operator
- Python None

CONTROL FLOW

- if…else
- Ternary Operator
- for Loop
- while Loop
- break
- continue
- pass

PYTHON LIST

- List
- Tuple
- Sorting a List in Place: sort()
- Sorting a List: sorted()
- Slicing a List: [::]
- Unpacking a List
- Iterating over a List: for loop
- Finding Index of an Element: index()
- Iterables
- Transform List Elements: map()
- Filtering List Elements: filter()
- Reducing List Elements: reduce()
- List Comprehensions

PYTHON DICTIONARY

- Dictionary
- Dictionary Comprehension

PYTHON TUPLE

PYTHON SET

- Set
- Set Comprehension
- Union of Sets
- Intersection of Sets
- Difference between Sets
- Symmetric Difference of Sets
- Subset
- Superset
- Disjoint Sets

EXCEPTION HANDLING

- try…except
- try…except…finally
- try…except…else

PYTHON LOOP WITH ELSE CLAUSE

- for…else
- while…else
- do…while Emulation

FUNCTIONS

- Python Functions
- Default Parameters
- Keyword Arguments
- Recursive Functions
- Lambda Expressions
- Function Docstrings

MORE ON FUNCTIONS

- Unpacking Tuples
- The *args Parameters
- The **kwargs Parameters
- Partial Functions
- Type Hints

DECORATORS

- Python Decorators
- Python Decorator with Arguments

CLASSES & OBJECTS

- Python Object-oriented Programming
- Class
- Class Variables
- Instance Methods

- init: Initializing Instance Attributes
- Instance Variables
- Private Attributes
- Class Attributes
- Static Methods

SINGLE INHERITANCE

- Single Inheritance
- Overriding Methods
- super()

MULTIPLE INHERITANCE

- Multiple Inheritance

SPECIAL METHODS

- str
- repr
- eq
- hash
- bool
- del

MODULES

- Modules
- Module Search Path
- Python name
- Packages

FILE I/O

- Reading a Text File
- Writing to a Text File
- Creating a Text File
- Checking If a File Exists
- Reading from a CSV File
- Writing to a CSV File
- Renaming a File
- Delete a File

CONTEXT MANAGERS

- Context Managers

DIRECTORY

- Working with Directory
- Listing Files in a Directory

MANAGING THIRD-PARTY PACKAGES

- Python Package Index (PyPI) & PIP
- Python Virtual Environments

Debugging in Python with Pdb

Our Students Testimonials

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