



Python

Length:	5 Days
Type:	Course
Delivery Method:	Instructor-led (classroom)

About

A professional with a proper understanding of Python language will be able to create basic syntax, GUI programs, various data types that include Looping, Functions, Tuples, Dictionaries, and more. The Python Bootcamp will also help individuals to understand Object-Oriented Programming with Graphical application development. There are many uses with this Python training as one will gain proficiency towards website development, programming, develop games, GUI application programming, write scripts for system administration, and more.

Course Objectives

- Python's flexible function and memory model
- Various object-oriented features
- How to create built-in data types
- Gain knowledge of iterators, list comprehensions, decorators, context managers, and generators
- How to create and use libraries and packages
- How to use dictionaries and use values, functions, and items
- Graphical application development in examining GUI, event-driven programming, and more

Public

- IT professionals
- Software Developers
- Programmers
- Application Developers



- Data Scientists
- Anybody who wants to learn the most powerful programming language in Python
- Professionals who want to make their careers in Python certification journey

Prerequisites

There are no prerequisites to take up this Python Bootcamp training. However, it is recommended that participants have a basic understanding of programming languages with data structures and how algorithms work.

Course Content

Module 1: Getting Started with Python

- Introducing Python
- Installing Python on Windows
- Installing Python on Linux and other Operating Systems
- Introducing Python IDLE
- Programming in Interactive Mode
- Programming in Scripting Mode

Module 2: Types, Variables and Input/Output

- Using quotes and escape character
- String Concatenation and Repeater Operators
- Using Mathematical Operators with Numbers
- Understanding Variables
- Getting User Input with input()
- Using Strings Methods
- Converting Values



Module 3: Types, Variables and Input/Output

- The if Statement
- The else Clause
- Using elif Clause
- The while Statement
- Avoiding infinite loops
- Values as conditions
- Using Logical Operators
- Planning Your Program with Pseudocode

Module 4: For Loops and Tuples

- Using for Loops
- Using Sequence Operators and Functions with Strings
- Finding Length with len()
- Using the in Operator
- Indexing and Slicing Strings
- Using Random Module
- Using Tuples
- Sequence Operators and Functions with Tuples

Module 5: Lists in Python

- Creating and Using Lists
- len() with Lists
- in Operator with Lists
- Indexing, Slicing and Concatenating
- Deleting List Element with del
- Using Lists Methods such as append(), sort(), reverse(), count(), pop(), remove(), insert() and index()
- Using Nested Sequences
- Understanding Shared references



Module 6: Dictionaries

- Using Dictionaries
- Accessing Dictionary values
- Adding, Replacing and Deleting key-value pairs
- Functions: get(), keys(), values() and items()

Module 7: Functions in Python

- Defining Functions
- Using Parameters and Return Values
- Using Arguments and Defaults Parameters
- Using Global Variables and Constants
- Variable Scope
- References

Module 8: File Input and Output and Exceptions

- The open Function
- Input from Text Files
- Output to Text Files
- Storing Complex Data in Files with Pickles and Shelve
- Handling Exceptions
- Using try Statement with except Clause
- Handling Multiple Exceptions

Module 9: Object-Oriented Python

- Introduction to Object-Oriented Python
- Creating Classes, Methods and Objects
- Using Constructor and Attributes
- Using Class Attributes and Static Methods
- Understanding Object Encapsulation
- Private Attributes and Methods



- Controlling Attribute Access
- Creating and Accessing Properties
- Combining Objects
- Using Inheritance to Create New Classes
- Altering Behavior of Inherited Methods
- Understanding Polymorphism

Module 10: Modules

- Using Modules in Programs
- Writing Modules
- Importing Modules
- Using Imported Functions and Modules

Module 11: Graphical Application Development

- Examining A GUI
- Understanding Event Driven Programming
- Introduction to Tkinter Module
- Using Root Window
- Creating Frames
- Using Labels and Buttons
- GUI Programs with Classes
- Binding Widgets and Event Handlers
- Using Text and Entry Widgets
- Using the Grid Layout Manager
- Using Check and Radio Buttons