

70001 Python Programming Essentials

Description

COURSE OVERVIEW:

Learn to code using Python. You will learn the fundamental concepts and practical implementation of Python programming. We also cover tools, tips, and commonly used techniques.

PREREQUISITES:

- Previous programming experience (e.g., JavaScript, Perl, or C for examples) required
- Experience with the Windows; Exposure to Mac or Unix command prompt: Understanding of “cd” command and working directories

AGENDA TOPICS:

Unit 1: Get Started

In this first part of the Python training class, you will be introduced to the Python language, different ways to interact with the language’s interpreter, and popular Python IDE’s (integrated development environments).

- Interactive vs. Batch Execution
- Python IDLE
- Difference between number and string data types
- How to assign and reference simple, virtuals
- Python operators & expressions

Unit 2: Programs and Program Development

A non-trivial program will almost always have at least three parts (input routine to accept user input, computation on input data, and output routine to generate the results). In this section, you will learn the basic structure of such programs.

- Simple output and formatting with the print command
- Getting input values and the input function
- Data type conversion
- Mathematical functions
- Import Function

Unit 3: Functions

In this section, you will be introduced to Python functions and the benefits of using them in your programs.

- Understand the basic syntax of functions
- Defining & calling a function in a program
- Asserting the correctness of a function
- Write nested functions
- Using Python debugger

Unit 4: Python Sequences: Lists, Tuples, and Ranges

In this section, you will learn and work with composite data types.

- Lists, tuples, and ranges
- Assignment and simple, virtuals with lists and tuples
- Common and basic operations on sequences
- Indexing & slicing
- Working with map, lambda, filter, & Boolean functions
- Incorporating sequences in loop functions

Unit 5: Control Flow Statements

In this section, you will learn control statements and control flow.

- If statement and If syntax
- Relational operators
- Compound statements using if-else, if-then, if-elif
- Nested-if and deeply nested if statement
- Writing a proper if control
- Boolean operators and semantics of Boolean operators
- Control expression

Unit 6: Repetition Control Statements

In this section, you will learn about loop statements and task control with count-controlled and sentinel-controlled repetitions.

- The for statement and syntax
- Control flow of for
- The while statement and syntax
- The while loop pitfalls
- The break, else, and continue statements
- Incorporating else, break, and continue in a for loop

Unit 7: List Processing

Here we show you how to work with and manipulate lists

- List processing
- Iterate and update a list
- The reduce function
- Nested lists
- Representing tables with nested lists
- Accessing members in lists
- List operations vs. list methods
- List operation gotchas

Unit 8: String Processing

This section is dedicated to Python string processing and regex

- String processing
- Sequence operations for strings
- Using string methods
- Common string methods
- Checking input
- Regular expression and pattern matching
- The search method
- The findall and finditer methods
- The sub method

Unit 9: Sets & Dictionaries

This section introduces Python data sets and dictionaries.

- Composite data types
- Set creation
- Common set operations and methods
- Understanding dictionaries and key:value pairs
- Common dictionary operations and methods

Unit 10: File Input/Output

In this section, we will be working with reading data from a file and saving the data to a file.

- Reading and saving files
- The two types of files: Text file (ASCII) and Binary
- Syntax for the open function
- The pickle module for binary files

- The OS module

Unit 11: Object-Oriented Programming (OOP)

In this section we will explore OOP in Python, one of the features it is most known for.

- Understanding what is an object
- Define and work with Python classes
- Creating multiple objects
- Define and work with constructors
- Accessors & mutators
- Inheritance

Object-oriented design

Do not hesitate to [Contact Us](#) or Live Chat if you have questions or concerns about Python Programming Essentials Course.

PRODUCT TYPE

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PRODUCT CAT

- Python
- Web Development and Programming

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