

Introduction to Python Programming Basics

Code:	TTPS4800
Length:	3 days
URL:	View Online

Python is one of the most versatile, popular programming languages in use today. You can leverage Python in almost every industry, in a wide array of applications from system administration to machine learning, from automation to web services, from data analysis to visual effects. Compared to other programming languages, Python is relatively easier to learn and use, providing a wide variety of opportunities for students of all skill levels and roles. A core component of our Python Journey skills-immersion series, Introduction to Python Programming Basics is a highly-rated, hands-on training course that has provided thousands of students with the skills required to quickly and easily put Python to work in their job, task or project. This three-day, jumpstart-style course will give you the foundation needed to program in Python. It covers programming basics such as flow control and data structures. It also tackles topics that are more unique to Python such as how to handle errors and exceptions, defining functions, and the basics of defining a Python class. This course provides an excellent start for users new to Python, enabling them to use their new skills immediately and providing the broad foundation for continued Python learning in their particular industry. This course combines expert lecture, real-world demonstrations and group discussions with machine-based practical labs and exercises. Our engaging instructors and mentors are highly experienced practitioners who bring years of current "on-the-job" experience into every classroom. Throughout the hands-on course, you'll learn to write essential Python scripts using the most current and efficient skills, best practices and techniques.

Skills Gained

Working in a hands-on learning environment, guided by our expert team, you'll learn to:

- Create working Python scripts following best practices
- Use python data types appropriately
- Read and write files with both text and binary data
- Search and replace text with regular expressions
- Get familiar with the standard library and its work-saving modules
- Use lesser known but powerful Python data types
- Create "real-world", professional Python applications
- Work with dates, times, and calendars
- Know when to use collections such as lists, dictionaries, and sets
- Understand Pythonic features such as comprehensions and iterators
- Write robust code using exception handling

Who Can Benefit

This course is geared for technical users who are new to Python. Roles might include developers, software engineers, data analysts who want to enhance data processing, system administrators and web site administrators who want to use Python to support their server installations, developers who want more efficient web solutions, as well as anyone else who wants to automate or simplify common tasks with the use of Python scripts.

Prerequisites

To ensure a smooth learning experience and maximize the benefits of attending this course, you should have the following prerequisite skills:

- At least some prior hands-on experience with scripting or programming. You don't need to be an expert in either, but you should have had some exposure and should be coming from a technical background.
- Working with Unix or Linux, and familiarity with using the command line interface for simple tasks, such as file navigation and executing commands.
- Basic familiarity working with text editors like Notepad, or IDEs, would be helpful as the course includes hands-on lab sessions requiring code editing.

Course Details

Course Agenda

The Python Environment

- Starting Python
- Using the interpreter
- Running a Python script
- Editors and IDEs

Variables and Values

- Using variables
- Builtin functions
- String data
- Numeric data
- Converting types

Basic input and output

- Writing to the screen
- String formatting
- Command line arguments
- Reading the keyboard

Flow Control

- About flow control
- The if statement
- Relational and Boolean operators
- while loops
- Exiting from loops

Array Types

- About array types
- Lists and list methods
- Tuples
- Indexing and slicing
- Iterating through a sequence
- Sequence functions, keywords, and operators
- List comprehensions and generators

Working with Files

- File overview
- Opening a text file
- Reading a text file
- Writing to a text file

Dictionaries and Sets

- About dictionaries
- Creating dictionaries
- Iterating through a dictionary
- About sets
- Creating sets
- Working with sets

Functions

- Defining functions
- Returning values
- Parameters and arguments
- Variable scope

Sorting

- The sorted() function
- Custom sort keys
- Lambda functions
- Sorting in reverse
- Using min() and max()

Exception handling and logging

- Exceptions
- Using try/catch/else/finally
- Handling multiple exceptions
- Logging setup

- Basic logging

Modules and Packages

- Creating Modules
- The import statement
- Module search path
- Using packages
- Function and module aliases

Introduction to Classes

- About object-oriented programming
- Defining classes
- Constructors
- Understanding self
- Properties
- Instance Methods and data
- Class methods and data
- Inheritance

Schedule (as of 4)

Date	Location	
Apr 29, 2024 - May 1, 2024	Virtual	Enroll
Apr 29, 2024 - May 1, 2024	Virtual	Enroll
Jun 10, 2024 - Jun 12, 2024	Virtual	Enroll
Jun 10, 2024 - Jun 12, 2024	Virtual	Enroll
Jul 29, 2024 - Jul 31, 2024	Virtual	Enroll
Jul 29, 2024 - Jul 31, 2024	Virtual	Enroll
Sep 9, 2024 - Sep 11, 2024	Virtual	Enroll
Oct 7, 2024 - Oct 9, 2024	Virtual	Enroll
Nov 11, 2024 - Nov 13, 2024	Virtual	Enroll
Dec 16, 2024 - Dec 18, 2024	Virtual	Enroll

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