

Python 3 Introduction (3 days)



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Python 3 Introduction

This hands-on course introduces non-programmers to the rapid development practices and capabilities of Python 3. The main aim is to build a solid foundation of Python syntax, structure and code layout with plenty of exercises and examples. Common approaches to coding are encouraged and the major online sites are used to provide familiarity with essential Python resources. Overviews of further Python uses are given as examples of the wide-ranging capabilities of Python.

Course Duration 3 Day

The course runs from 9.30 am to approximately 4.30 pm.

Introducing Python 3

Python Features
Installing and Running Python
Using the Interactive Interpreter and pip
Overview of IDLE, PyCharm and Jupyter and other
Integrated Development Environments

Numbers, Strings, Variables and Data Structures

Variables, Names, and Objects
Numbers and Mathematical Functions
Strings
Overview of Lists, Tuples, Dictionaries, and Sets

Code Structures

Python grammar and code layout
Comments and Continuation lines
if, elif, and else
while, break and continue
for and other Iterators
Functions
Positional and Keyword Arguments
Default Parameter Values
Functions as First-Class Citizens
Inner Functions and Closures
Anonymous Functions: the lambda() Function
Namespaces and Scope
Handle Errors with try and except
Make Your Own Exceptions

Packages, and Programs

Standalone Programs
Command-Line Arguments
Packages
The Python Standard Library
Other packages and package collections (e.g.
Anaconda)

Overview of Objects and Classes

Classes and Inheritance
Adding and Overriding a Method
Get and Set Attribute Values

Data Files

Reading and Writing Text Files and Binary Files
Structured Text Files
Configuration Files
Accessing data services over http

Brief Overview of Python in Use

Pattern Matching, Web Scraping, Spreadsheets, PDF
and Word Documents
Timing, Scheduling Tasks and Manipulating Images
Symbolic Computing, Plotting and Visualization
Equation Solving and Data Processing and Analysis
Statistical Modelling and Machine Learning

“A highly professional company run by knowledgeable, friendly people”

