



Core Python



About Course

Python is an interpreted, high-level, general-purpose programming language that emphasizes code readability. It's a dynamically typed and garbage-collected language that supports structured, object-oriented, and functional programming. It's often described as a "batteries included" language due to its comprehensive standard library. In this path you will learn the basics of Python and more advanced topics such as object-oriented design and code organization.

CORE PYTHON

CURRICULUM

1 Introduction to Script

What is Script, program?

Types of Scripts

Difference between Script and Programming Languages

Features and Limitation of Scripting

Types of programming Language Paradigms

2 Introduction to Python

What is Python?

Why Python?

Who Uses Python?

Characteristics of Python

History of Python

What is PSF?

Python Versions

How to Download and Install Python

Install Python with Diff IDEs

Features and Limitations of Python

Python Applications

Creating Your First Python Program

Printing to the Screen
Reading Keyboard Input
Using Command Prompt and GUI or IDE
Python Distributions

③ Different Modes in PYTHON

Execute the Script
Interactive and Script Mode
None
Dictionaries
Tuples
List Slices
List Comprehensions
String Formatting
Useful Functions
Text Analyzer
Module 6 Quiz
Code project 6th Module
Joining two lines
Python Implementation Alternatives
Sub Packages in Python
Uses of Python in Data Science, IoT
Working with Python in Unix/Linux/Windows/
Mac/Android...!!
Python File Extensions

SETTING PATH IN Windows
Clear screen inside python
Learn Python Main Function
Python Comments
Quit the Python Shell
Shell as a Simple Calculator
Order of operations
Multiline Statements
Quotations in Python
Python Path Testing

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PYTHON NEW IDEs

PyCharm IDE
How to Work on PyCharm
PyCharm Components
Debugging process in PyCharm
PYTHON Install Anaconda
What is Anaconda?
Coding Environments
Spyder Components
General Spyder Features
Spyder Shortcut Keys
Jupyter Notebook
What is Conda? and Conda List?
Jupyter and Kernels
What is PIP?

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Variables in Python

What is Variable?

Variables and Constants in Python

Variable, Variable names and Value

Mnemonic Variable Names

Values and Types

What Does "Type" Mean?

Multiple Assignment

Python different numerical types

Standard Data Types

Operators and Operands

Order of Operations

Swap variables

Python Mathematics

Type Conversion

Mutable Versus Immutable Objects

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String Handling

What is string?

String operations and indices

Basic String Operations

String Functions, Methods

Delete a string

String Multiplication and concatenation

Python Keywords, Identifiers and Literals
String Formatting Operator
Structuring with indentation in Python
Built-in StringMethods
Define Data Structure?
Data Structures in PYTHON

7 Python Operators and Operands

Arithmetic, Relational Operators and Comparison Operators
Python Assignment Operators
Short hand Assignment Operators
Logical Operators or Bitwise Operators
Membership Operators
Identity Operators
Operator precedence
Evaluating Expressions

8 Python Conditional Statements

How to use "if condition" in conditional structures
if statement (One-Way Decisions)
if .. else statement (Two-way Decisions)
How to use "else condition"
if .. elif .. else statement (Multi-way)
When "else condition" does not work

How to use "elif" condition

How to execute conditional statement with minimal code

Nested IF Statement

9 Python LOOPS

How to use "While Loop" and "ForLoop"

How to use For Loop for set of other things besides numbers

Break statements, Continue statement, Enumerate function for For Loop

Practical Example

How to use for loop to repeat the same statement over and again

Break, continue statements

10 Learning Python Strings

Accessing Values in Strings

Various String Operators

Some more examples

Python String replace() Method

Changing upper and lower case strings

Using "join" function for the string

Reversing String

Split Strings

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Sequence or Collections in PYTHON

Strings

Unicode Strings

Lists

Tuples

buffers

xrange

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Python Lists

Lists are mutable

Getting to Lists

List indices

Traversing a list

List operations, slices and methods

Map, filter and reduce

Deleting elements

Lists and strings

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Python TUPLE

Advantages of Tuple over List

Packing and Unpacking

Comparing tuples

Creating nested tuple



Using tuples as keys in dictionaries

Deleting Tuples

Slicing of Tuple

Tuple Membership Test

Built-in functions with Tuple

Dotted Charts

Python Sets

How to create a set?

Iteration Over Sets

Python Set Methods

Python Set Operations

Union of sets

Built-in Functions with Set

Python Frozenset

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Python Dictionary

How to create a dictionary?

PYTHON HASHING?

Python Dictionary Methods

Copying dictionary

Updating Dictionary

Delete Keys from the dictionary

Dictionary items() Method

Sorting the Dictionary

Python Dictionary in-built Functions

Variable Types

Python List cmp() Method

Dictionary Str(dict)

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Python Functions

What is a function?

How to define and call a function in Python

Types of Functions

Significance of Indentation (Space) in Python

How Function Return Value?

Types of Arguments in Functions

Default Arguments and Non-Default Arguments

Keyword Argument and Non-keyword Arguments

Arbitrary Arguments

Rules to define a function in Python

Various Forms of Function Arguments

Scope and Lifetime of variables

Nested Functions

Call By Value, Call by Reference

Anonymous Functions/Lambda functions

Passing functions to function

map(), filter(), reduce() functions


What is a Docstring?



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