



ADVANCE PYTHON

COURSE SYLLABUS

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Applications of Python

Introduction to Python Language

What is Python

Uses of Python Programming Language / Python Applications

Python for Software development

Python for Networking

Python for Automated Testing

Features of Python Programming Language

Implementations of Python

Python career opportunities

Download & Install Python

Download Python Interpreter

Install Python

Set environment variable

Customize Python shell

Python PyCharm or IDE

Set Python for PyCharm IDE

Configure PyCharm IDE

Do Python Language Syntax

Modes of Programming in Python

Interactive mode programming

Script mode programming

Creating Python program file

Python Identifiers

Python keywords

Lines and Indentation

Spilt Python statements

Join Python Statements



Writing code blocks
Comments in Python
Quotation in Python

Python Keywords and Identifiers

Python keywords or reserved words
Python keywords define the syntax and structure of the Python language
Python keywords are case sensitive
Python literals (True, False, Null)
Python Identifiers
Class names
Variable names
Function names
Method names
Identifier naming rules

Python Comments

Purpose/use of comments in Computer Programming
Comments for Understanding Python code
Python Comment Syntax
Python Single line comment
Multiline comment in Python
Writing Python comments

Python Variables

What is Variable?
Declaration of Variables
Assign Values to Variables
Initialization
What is Variable?
Declaration of Variables
Assign Values to Variables
Initialization



Python Data Types

What is Data Type?

Implicit Declaration of Data Types

Python Numbers (Integers, floating-point numbers, and complex numbers)

Python Strings

Python boolean data type

Python Operators

Python Arithmetic

Comparison/Relational Operators

Increment Operators

Logical operators

Python Identity Operators

Python Operators Precedence

Python Control Flow – Looping

Python Control Flow Statements

Python Loop Statements

Python while loop

Python for loop

Python range ()

Python Nested Loop Structures

Inserting conditions in Loops and vice versa

Python Numbers

Python Number data types are for storing numeric values

Python supports integers

Floats

Complex numbers



Python Strings

Alphabets

Numbers

Special Characters

Operations on Strings

Finding String length

Concatenating Strings

Print a String multiple times

Check whether the String has all numeric characters?

Check whether the String has all alphabetic characters?

Python Lists

Python Data Structures

Create Python Lists

Update Python Lists

Delete Elements from Python Lists

Built-in Functions & Built-in Methods for Python Lists

Transferring Experts Knowledge To Students

Python Tuples

Differents between Tuples and lists

Python Sets

What is Python Sets?

Python Dictionaries

What is Python Dictionaries?

Python File Handling

How to Handling files using python

Python Exceptions Handling

How to handle the Exceptions

PYTHON OOPS CONCEPTS

Python Classes and Objects

How to create a classes and objects

Python Constructors

Constructors in Python

Parameterized Constructor

Non-parameterized Constructor

Constructor definition

Python Inheritance

Inheritance object-oriented programming

Types Inheritance in Python

Single Inheritance

Multi-Level Inheritance

Multiple Inheritance

Hierarchical Inheritance

Hybrid Inheritance



Python Polymorphism

What is Polymorphism?

Types of Polymorphism in Python

Compile Time Polymorphism (Method Over Loading)

Run Time Polymorphism (Method Overriding)

Polymorphism with class methods

Polymorphism with Inheritance

Python Abstraction

What is Abstraction?

Hiding and essential features of the object

Abstraction in Python is achieved by using abstract classes and interfaces

Python Encapsulation

Idea of wrapping data

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