

Python Course Content

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Language Fundamentals :

Introduction

Features of Python

Limitations of Python

Flavors of Python

Python Versions

Identifiers

Reserved Words

Data Types

Base Conversions

Slicing of Strings

Type Casting

Fundamental Data Types

Escape Characters

Constants

Operators :

Arithmetic Operators

Relational Operators

Equality Operators

Logical Operators

Bitwise Operators

Shift Operators

Assignment Operators

Ternary Operators

Flow Control :

Conditional Statements

Iterative Statements

Loops with Else Block

Del Statement

Difference Between Del and None

String Data Types :

What is String ?

How to define Multi-line String Literals ?

How to Access Characters of a String ?

Behaviour of Slice Operator

Mathematical Operators of String

In-Built Function

Comparison of Strings

Removing Spaces from String

Finding Substrings

Count

Replace

Split

Joins

Format

List Data Structure :

Create List Objects

List vs Mutability

Traversing the elements of List

Important Functions of List

Using Mathematical Operators for List

Comparing List Objects

Nested Lists

List Comprehensions

Tuple Data Structure :

Tuple Creation

Accessing Elements of Tuple

Tuple vs Immutability

Mathematical Operators for Tuple

Tuple Functions

Tuple Packing and Unpacking

Tuple Comprehension

List vs Tuple

Set Data Structure :

Creation of Set Objects

Set Functions

Set Mathematical Operations

Membership Operators

Set Comprehension

Dictionary Data Structure :

Create Dictionary

Access Data from Dictionary

Update Dictionary

Delete Elements from Dictionary

Dictionary Functions

Dictionary Comprehension

Functions :

- Built-in Functions
- User Defined Functions
- Parameters
- Return Statements
- Types of Arguments
- Types of Variables
- Global keyword
- Recursive Functions
- Anonymous Functions
- Lambda Function
- Filter() Function
- Map() Function
- Reduce() Function
- Nested Functions

Modules :

- Import modules
- Working with Different Types of Modules

Oop's Part-1 :

- Class
- Object
- Reference Variable
- Self
- Constructor
- Difference between Methods and Constructors
- Types of Variables
- Instance Variables

Static Variables

Instance Variables Vs Static Variables

Local Variables

Types of Methods

Inner Classes

Destructors

Oop's Part-2 :

Inheritance

Types of Inheritance

Composition Vs Aggregation

Super()

Oop's Part-3 :

Polymorphism

Overloading

Overriding

Oop's Part-4 :

Abstract Method

Abstract Class

Interface

Concrete Class Vs Abstract Class Vs Interface

Public, Private and Protected Members

Exception Handling :

Syntax Errors

Runtime Errors

What is Exception

Default Exception Handling in Python

Try-Except

Try-Except-Finally

Types of Exceptions

File Handling :

Types of Files

Opening a File

Closing a File

Various Properties of File Object

Writing Data to Text Files

Reading Character Data From Text Files

The With Statement

The seek() and tell() methods

Handling Binary Data

Handling csv files

Writing Data to csv files

Reading Data from csv files

Multi Threading :

Multi Tasking

Ways of Creating Thread in Python

Enumerate() Function

isAlive() Method

Synchronization

Python Database Program :

Storage areas

File Systems

Databases

Python Database Programming

Working with MySQL Database

Commonly used commands in MySQL

Regular Expressions :

Regular Expressions Functions

- ➔ Match()
- ➔ Fullmatch()
- ➔ Search()
- ➔ Findall()
- ➔ Finditer()
- ➔ Sub()
- ➔ Split()
- ➔ Compile()

Decorators :

Decorator Chaining

Generators :

Advantages of Generator Functions

Assertions :

Debugging Python Program by using Assert Keyword

Types of Assert Statements

Exception Handling Vs Assertions

Python Logging :

Logging Levels

How to implement Logging

How to configure Log file in over writing mode

How to format log messages

How to add Timestamp in log messages

How to change Date and Time format

How to write Python Program Exceptions to Log File

Logger with Configuration File

Creation of Custom Logger

Advantages of Customized Logger