

Python Course

An Overview of Python

- Introduction
- History of Python.
- Interpreted languages
- Pros and Cons
- Installing Python
- Which version of Python
- Where to find documentation

Running Python Scripts

- Structure of a Python script
- Using the interpreter interactively
- Running standalone scripts under Unix and Windows

Getting Started

- Basic Syntax
- Variables and types
- Writing to the screen
- Reading from the keyboard
- Numbers
- Comments
- Print, Format, % methods

Operators

- Arithmetic Operators
- Comparison (i.e., Relational) Operators
- Assignment Operators
- Logical Operators
- Bitwise Operators
- Membership Operators
- Identity Operators

Flow Control

- About flow control
- Indenting is significant
- The if and elif statements
- Nested If stmts
- while loops
- Using the for statement

- Nested Loops
- Loop Control Stmts(Break, Continue, Pass)
- The range() function
- Iterators
- Generators

Collections

- Primitive v/s Composite type
- Lists
- Tuples
- Strings are special kinds of lists
- Maps (or Dictionaries)
- Sets/FrozenSets
- Enums

Functions

- General Syntax
- Function definition and call
- Types of Functions
- Function Arguments
- Anonymous Functions
- Global versus local variables
- Passing parameters and returning values

Using Modules

- Introduction to module
- Using Modules
- Creating your own Modules
- Working with a third party libraries.
- Package creation and importing

Working with Files

- Text file I/O overview
- Opening a text file
- Reading text files
- Writing to a text file
- Higher level file operations
- Creating your own file related utilities(copy, mv)

Errors and Exception Handling

- Default Exception Handler

- Catching Exceptions
- Raise an Exception
- User Defined Exception
- Cleaning up with finally

Regular Expressions

- RE Objects
- Matching v/s Searching
- Parsing data
- Complex substitutions
- RE tips and tricks

An Introduction to Python Classes

- Introduction to OOPS
- Classes and Objects
- Instance methods and Data
- Inheritance methods and Data
- Method Overriding
- Destructors

Database Access

- The DB API
- Available Interfaces
- Connecting to a server
- Creating and executing a cursor
- Fetching data
- Parameterized statements
- Transaction control

Standard Library Modules

- OS module
- Sys module
- Random module
- Date&Time
- Math
- Pickle, urllib2