Kasha Training

Python Online Training

Unit 1 – Introduction

- Understanding the Open Source
  - Installation of Python in Linux/window
  - Understanding Interpreters
    - ipython
    - bpython
  - Getting started with Python
  - Getting to understand Help
    - Exploring the Objects
- Setting up the IDE and various IDEs (Integrated Development Environment)
  - Setting up using the PEP-8
    - Indentation
    - Tabs or spaces
    - Maximum line length
    - Blank lines
    - Source file Encoding
  - Creating the first Python Program
    - Understanding sha-bang
    - Understanding the .py extension
  - How to run the python programs

Unit 2 – Types and Operators

Introduction to Data Types

- Type casting in Python
- Various ways of Printing
- Boolean Operators
- Playing with Numbers
- Playing with Strings
  - String Quotes
  - Raw Strings
- Docstring & Comments
- Accepting Inputs

Unit 3 – Control Statements

- Conditional Statements
  - Introduction
  - Boolean Expressions
  - Logical Operators
  - Using If Condition
  - Pass
  - Applying PEP-8 Standards
- Looping Statements
  - for
  - while
  - range
  - break
  - Pass
  - continue

Unit 4 – Lists

- What are Lists?
    - Mutable Lists
    - In Operator
    - Traversing a List
    - List Operations
    - Indexing
    - Slicing
    - Converting a List to String
    - Converting a String to List
    - Aliasing in Lists
    - Functions in Lists

Unit 5 – Tuples

- What is Tuples?
    - Indexing in Tuples
    - Slicing in Tuples
    - Immutable Tuples
    - Packing and Unpacking
    - Lists and Tuples
    - Functions in Tuples

Unit 6 – Dictionaries

- What are Dictionaries?
    - Keys and Values
    - In Operator
    - Looping in Dictionaries
    - Lookups in Dictionaries
    - Dictionaries and Tuples
    - Functions in Dictionaries
    - Dictionaries vs Sets

Unit 7 – Functions

- Function Basics
    - Scope rules in Functions
        - Global Scope
        - Local Scope
        - Locals
        - Globals
        - Global
- Understanding the Return Keyword
    - Argument Passing
        - Default Argument List
        - Keyword Arguments
- Understanding the Docstrings
    - List Comprehensions
    - Lambda, Map and Filters
- Understanding the Closures
    - Decorators

Unit 8 – Modules

- What are Modules?
    - Understanding the Namespaces

    - Various ways of Importing
    - "reload" Operation
    - understanding about sys.path
    - dir() Function
    - Understand the __main__ and __name__
- operation
    - Installation of a module
    - Understanding the virtualenv
    - Packaging a module
    - Packages

Unit 9 – Files

- Fancier Output Formatting
- Reading and Writing Files
- Methods of File Objects
    - Reading
    - Writing
    - Modify
- Buffering in files
- Parsing a xml files
- Parsing a xls files
- Pickles
- Output using Pickle
- Introduction to Subprocess, os

Unit 10 – Exceptions

- What are Exceptions
- Simulating Errors
    - Various types of Exceptions
    - Exception Handling - try,except,else,finally
    - Trapping Errors
    - Raising Exceptions
    - Customized Exceptions

Unit 11 – Regular Expressions

- Understanding the Regular Expressions
    - Getting Started
    - Compiling a Pattern
    - Flags - ignorecase, dotall
    - Working with Multiple Flags
    - Search vs Match
    - Raw String Notations
    - Special Characters
        - Globbling Characters
        - Anchors
        - Character Sets
    - Grouping

Unit 12 – Debugging

- Introduction to Debugging
    - Debugging using IDE
- Various modes to get to pdb
    - Script mode, Enhanced Script mode
    - Post Mortem mode

    - Run mode
    - Trace mode
- Playing with the Trace mode
    - Listing
    - Step, next
    - Continue, break
    - Printing variables
    - Assigning values
    - Restart and return
    - Where, stacks, breakpoints
    - Repeat

Unit 13 – Logging