

PYTHON TRAINING COURSE CONTENTS

Python Overview

- What are the Python Course Pre-requisites?
- Objectives of the Course
- Who should do the course
- Python Training Course Duration

Python Core Concepts

Introduction to Python

- PYTHON Installation
- PYTHON NEW IDEs
- Variables in Python
- String Handling
- Python Operators and Operands
- Python Conditional Statements (If - Else Statements)
- Python LOOPS (While, For with Range)
- Learning Python Strings

Sequence or Collections in PYTHON

- Python Lists
- Python TUPLE
- Python Sets
- Python Dictionary
- Python Functions

PYTHON ADVANCE CONCEPTS

- Python Modules
- Packages in Python
- Python Date and Time
- File Handling
- Python OS Module
- Python Exception Handling

OBJECT ORIENTED PROGRAMMING SYSTEM

- OOPS Principles
- Define Classes
- Creating Objects
- Python Class and Objects
- Class variables and Instance Variables Constructors
- Polymorphism
- Abstraction
- Encapsulation
- o Inheritance
- Python Regular Expressions
- Python XML Parser
- Python-Data Base Communication
- Multi-Threading
- Web Scrapping
- Unit Testing with PyUnit

- More Advanced PYTHON
- (Python Iterators, Generators, Closures, Decorators and Python @property)

PYTHON LIBRARIES & DATA ANALYSIS

- **NUMPY**
- Numpy arrays
- Ndarray
- Double dimension arrays
- Resizing, reshaping
- Vector multiplication
- Array Attributes
- Array Operations
- Indexing & Slicing
- Advance Indexing
- Interview Questions
- Exercise Programs
- Summary
-Much More..

PANDAS

- Data Structures
- Pandas - Dataframes, Panel, Reindexing
- Options & Customization
- Indexing & Selecting Data
- Date Functionality
- Interview Questions
- Exercise Programs
- Summary
- Much More

SERIALIZATION PICKLING, XML & JSON

- Introduction to Serialization
- Structure and Container
- Pickle Module
- pickling built-in data structures ○ byte strings ○ binary
- xml parsing and construction - xml,json parsing and construction
- - json, simplejson

- Interview Questions
- Exercise Programs
- Summary

PYTHON-DATA BASE COMMUNICATION

- What is Database? Types of Databases?
- What is DBMS?, RDBMS?
- What is Big Data? Types of data?
- Oracle, MySQL, SQL server, DB2
- Executing the Queries

- Bind Variables
- Interview Questions
- Exercise Programs
- Summary

NO SQL Database

- What is NoSQL Database
- Advantages over RDBMS
- History behind the creation of NoSQL Databases
- Advantages of NoSQL
- List of NoSQL Database like MongoDB, Cassandra..etc

MONGO DB

- History MongoDB
- Features No SQL Databases
- MongoDB Data Types
- Install MongoDB
- MongoDB Shell
- MongoDB Data Modeling
- Interview Questions
- Exercise Programs
- Summary

Data Science

- What is Data Science?
- Data Science Life Cycle?
- What is Data Analysis, Data Mining
- Analytics vs Data Science
- Interview Questions
- Exercise Programs
- Summary

Machine Learning

- Machine Learning - Introduction
- What Today's AI Can Do?
- Machine Learning - Traditional AI
- What is Machine Learning?
- Machine Learning - Categories
- Machine Learning - Supervised
- Machine Learning - Scikit-learn Algorithm
- Machine Learning - Unsupervised
- Machine Learning - Skills
- Interview Questions
- Exercise Programs
- Summary