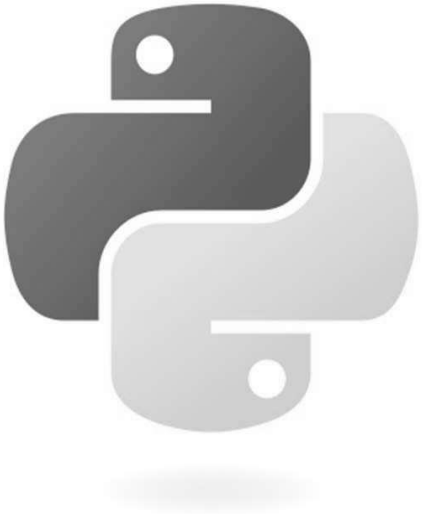

python™

Python
(Data Analytics)

Course Overview

Python is a widely-used general-purpose, high-level programming language. It supports multiple paradigms like Object-Oriented Programming and Functional Programming. It is widely used in the field of automation scripting, web development, data science etc. Learning Python for Data Science will enable you to –

- Think logically and create automation scripts for your daily tasks at work
- Integrate Python with external data sources like SQL Server or CSV files using python libraries.
- Perform complex operations on data just by writing a single line of code
- Analyze your data statistically and visually using NumPy and pandas libraries
- Explore functional modules and perform analytics on your data

This course aims to empower any data analyst to import and clean their data and perform visual and statistical exploratory data analysis on the data.

Course Takeaway

- Perceive programming methodology
- Gather basic programming constructs
- Create and manipulate Data Structures in Python
- Learn to use Python built-in functions and create user-defined functions
- Explore NumPy, pandas and matplotlib libraries.
- Learn to import and clean data
- Perform Exploratory Data Analysis
- Analyze your data statistically and visually

System Specifications

Windows

- Microsoft Windows 7 or newer (64-bit)
- Microsoft Server 2008 R2 or newer
- 2 GB memory
- 1.5 GB minimum free disk space

Mac

- iMac/MacBook computers 2009 or newer
- macOS High Sierra 10.13 and macOS Mojave 10.14
- 1.5 GB minimum free disk space

Course Duration

- The estimated duration for this course –
  - **No of Days: 3 days**
  - **No. of hours per day** - 8 hrs.
- Following slides detail the day-wise schedule.

Note - The course contents and duration can be customized as per the training requirement

Download and Installation

- Python interpreter download link –

  https://www.python.org/downloads/
- Python interpreter using anaconda download link –

  https://www.anaconda.com/products/individual#Downloads
- Python interpreter using Google Collab –

  https://colab.research.google.com/
- To install python using anaconda follow the given video

  https://youtu.be/s19XCNKmj4A
- Requesting the learners to go through below playlist as pre-read material before the sessions

  https://bit.ly/python_tutorials

Note – Python can be installed and accessed using any of the above methods. Client can choose the appropriate alternative as per their requirement.

Introduction to Python

- Introduction to Programming
- Getting acquainted with the python interpreter
- Installing python and PyCharm (this is standard tool for application development.)
- Data Types in Python
- Variables in Python
- Data Type Conversion
- Operators in Python
- Decision Making
- Iterations

Sequences and Python Containers

- Strings
- Tuples
- Lists
- Sets
- Dictionary
- Comprehensions

Functions in Python

- Introduction to functions
- User defined functions
- Function argument
- Scope of variable
- Function object
- Lambda functions
- map(), filter(), reduce(), accumulate(), enumerate(), zip()

Arrays

- Import NumPy library
- Define and access Arrays
- Indexing, slicing, boolean indexing on arrays
- Operations on arrays
- Manipulating arrays

Visualizing Data

- Import matplotlib library
- Basic chart types and their usage
- Plot charts for data stored in arrays

Data Frames

- Import pandas library
- Define and access data frames
- Manipulate data frames
- Build charts using pandas library
- Univariate Analysis
- Bivariate Analysis
- Multivariate Analysis