Python Foundations

Course Objective:

Learning Python is essential for those who wish to learn business analytics and data science as it empowers analysts and data scientists to efficiently tackle complex data challenges and uncover valuable insights that drive business growth and informed decision-making.

Python's simplicity, versatility, and the wealth of libraries and resources available make it an indispensable tool for anyone seeking to excel in data science and business analytics.

The course is designed to provide participants with a solid foundation in Python programming for data science and business analytics. The course will cover essential Python concepts and foundational libraries, enabling students to effectively manipulate, analyse, visualize data. The course will be hands-on and project-based, allowing participants to apply their skills to real-world data sets.

The objective of the course is to enable the students to

1. Understand and learn core features of python.
2. Learn how to read and write various data formats.
3. Learn how to prepare and clean data using python.
4. Learn how to do basic statistical analysis to find key insights from the data using python.
5. Learn how to create basic charts and plots for univariate and bivariate analysis.

Software:

- Install latest Anaconda Distribution for Python (3.8) on your desktop / laptop https://www.anaconda.com/download/

Sessions	Duration	Theme	Subtopic	Hands-on
Session 1 & 2	3 hours	Python overview	• Overview of python libraries • Core language features • Variables and loops • Functions	Jupyter notebook and Google Colab and python functions and iterators
Session 3 & 4	3 hours	Advance Language Features and Introduction to Dataframes	• Writing utility functions • Collections: Lists, dictionaries, tuples and sets • Reading and Writing csv, excel files	Collections and Extracting and loading stock trading data

Session 5 & 6	3 Hours	Advanced DataFrame operations	• Dealing with real world data • Filtering, grouping, joining, sorting etc. • Basic statistical analysis	Value at Risk Analysis for Stock Prices
Session 7 & 8	3 Hours	Exploratory Data Analysis (EDA) using Python	• Univariate and Bivariate Analysis • Histogram, Box plot, Bar Plot, Scatter Plot, Heatmap etc.	Insurance Data: Exploratory Analysis