Python for Data Science
Course Syllabus

Accredited with IABAC™

(International Association of Business Analytics Certifications)`

Module 1: Python Language Basics

- ✓ Installing Python Anaconda distribution

- ✓ Python native Data Types

- ✓ Math & Comparision Operators

- ✓ Conditional Statement

- ✓ Loops

- ✓ Lists, Tuples, Strings, Dictionaries, Sets

- ✓ Functions

- ✓ Exception Handling

- ✓ Importing Numpy
- ✓ Numpy overview
- ✓ Numpy Array creation and basic operations
- ✓ Numpy Universal functions
- ✓ Selecting and retrieving Data
- ✓ Data Slicing
- ✓ Iterating Numpy Data
- ✓ Shape Manupilation
- ✓ Stacking and Splitting Arrays
- ✓ Copies and Views : no copy, shallow copy , deep copy
- ✓ Indexing : Arrays of Indices, Boolean Arrays

- ✓ Importing Pandas

- ✓ Pandas overview

- ✓ Object Creation : Series Object , DataFrame Object

- ✓ View Data

- ✓ Selecting data by Label and Position

- ✓ Data Slicing

- ✓ Boolean Indexing

- ✓ Setting Data

- ✓ Applying functions to data
- ✓ Histogramming
- ✓ String Methods
- ✓ Merge Data : Concat, Join and Append
- ✓ Grouping & Aggregation
- ✓ Reshaping
- ✓ Analysing Data for missing values
- ✓ Filling missing values: fill with constant, forward filling, mean
- ✓ Removing Duplicates
- ✓ Transforming Data

- ✓ Droping Data

- ✓ Sorting Data

- ✓ Pivot Tables

- ✓ Time Series

- ✓ Categoricals

- ✓ Ploting Data

- ✓ Import and Export Data

✓ Descriptive Statistics : Sum, Mean, Median, Variance, Standard Deviation

✓ Summarizing Categorical Data

✓ Plotting with Pandas

✓ Correlation : Continuous and Categorical (Pearson Corr Coff)

✓ Chi-Square test for independence

✓ Normalizing & Standarding

Module 6: Visualization with MatPlotLib & Seaborn

- ✓ Importing MatPlotLib & Seaborn Libraries

- ✓ Creating basic chart : Line Chart, Bar Charts and Pie Charts

- ✓ Ploting from Pandas object

- ✓ Saving a plot

- ✓ Object Oriented Plotting : Setting axes limits and ticks

- ✓ Multiple Plots

- ✓ Plot Formatting : Custom Lines, Markers, Labels, Annotations, Colors

- ✓ Satistical Plots with Seaborn

End of the Syllabus

- This is a standard syllabus as per Accreditation Body, IABAC™ International Association of Business Analytics (USA).
- The syllabus can be customized on request for corporate clients to suit their training requirements.
- The certification exam will be based on the IABAC™ Syllabus.

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