

# 60 Days - Foundation in Data Analytics with Python

## ***Module 1: Introduction to Data Analysis (1 Day)***

- Importance of data analysis in decision-making
- Python environment setup (Jupyter Notebook, Anaconda)
- Overview of libraries: Pandas, NumPy, Matplotlib, Seaborn

## ***Module 2: Python Basics for Data Analysis (4 Days)***

- Python syntax: variables, data types, and control structures
- Working with lists, dictionaries, tuples, and sets
- Functions and modules for data manipulation

## ***Module 3: Data Manipulation with Pandas (10 Days)***

- DataFrames and Series
- Importing/exporting data (CSV, Excel, SQL)
- Cleaning, filtering, sorting, and aggregating data
- Merging and joining datasets

## ***Module 4: Numerical Computations with NumPy (5 Days)***

- NumPy arrays and operations
- Slicing, indexing, and mathematical computations
- Random sampling and statistical operations

## ***Module 5: Data Visualization with Matplotlib and Seaborn (10 Days)***

- Line plots, bar charts, histograms, scatter plots
- Visualizing categorical and numerical data
- Plot customization (titles, legends, colors)

## ***Module 6: Exploratory Data Analysis (EDA) (10 Days)***

- Summary statistics, correlation, and distributions
- Univariate and bivariate analysis
- Identifying trends, patterns, and outliers

## ***Module 7: Data Analysis Case Study (10 Days)***

- Hands-on EDA with real-world datasets (e.g., sales, customer data)
- Drawing insights and presenting findings