Welcome to
INTERNSHIP STUDIO

Module 04 | Lesson 01
Introduction to Python for Data Analytics

Overview: Why use Python for Data Analytics?

1. Python is a high-level programming language that is widely used for data analytics, machine learning, and scientific computing
2. It has a simple and elegant syntax that makes it easy to learn and use.
3. It has a rich collection of libraries that provide powerful tools for data manipulation, exploration, visualization, and modeling
4. Python is highly interoperable with other programming languages making it a flexible language for data analytics

Basic Syntax and Variables

1. **Variables**: defining and assigning values
2. **Data types**: integers, floats, strings, booleans, lists, tuples, and dictionaries
3. **Operators**: arithmetic, assignment, comparison, and logical operators
4. **Control structures**: if/else statements and loops

Python Libraries for Data Analytics

1. **NumPy**: Provides support for large, multi-dimensional arrays and matrices, along with functions to operate on these arrays.
2. **Pandas**: A library for data manipulation and analysis with tools for data cleaning, merging, grouping, filtering, and more.
3. **Seaborn**: A library for data visualization in Python that builds on top of Matplotlib and provides high-level interfaces for creating informative and attractive statistical graphics.
4. **Scikit-learn**: A machine learning library for Python that provides tools for classification, regression, clustering, and dimensionality reduction, including a range of algorithms for model selection, feature selection, and data preprocessing.

Applications of Python in the industry

1. **Web Development**: Python is used for web development frameworks and back-end development of web applications.
2. **Data Science and Analytics**: Python has a range of libraries that make it a popular language for data science and analytics, including machine learning and deep learning.
3. **Scientific Computing**: Python is used extensively in scientific computing applications such as computational biology, physics, and chemistry.
4. **Finance**: Python is widely used in finance for algorithmic trading, risk management, and portfolio management.
5. **Gaming**: Python is used for developing games and game engines.

SUMMARY

You got this

✔ 1 What is Python?
✔ 2 Why is it preferred for Data Analytics
✔ 3 Popular libraries in Python
✔ 4 Applications of Python in the industry

Next session

▪ 1 How to configure Python in your system
▪ 2 Installing Jupyter notebook and other important packages
▪ 3 Downloading your first dataset and reading it on your notebook.