DataQuest Solutions

Data Analysis with Python

Lesson 1. Introduction to Python for Data Analysis

- Python Basics (variables, data types & Operators)
- Control structures (ifelse, loops)
- Functions and Modules
- Working with Jupyter

Lesson 2. Data Structures in python

- Lists, Tuples, Sets
- Dictionaries
- Arrays (using numpy)
- DataFrames (pandas)

Lesson 3. Data Importation and Inspection

- Reading & Writing csv, Excel
- Working with SQL databases
- Web Scraping (with requests, BeautifulSoup, selemium)
- Accessing APIs (requests, httpx)

Lesson 4. Data Cleaning and Preprocessing

- Handling missing data
- Data type conversion
- Handling Outliers
- Encoding Categorical Variables
- Duplicates handling
- Filtering and Sorting

- Feature Scaling (Standardization & normalization)

Lesson 5. Exploratory Data Analysis (EDA)

- Descriptive Statistics
- Cross Tabulations
- Correlation & Covariance Analysis
- Distribution Analysis
- Data Visualization

Lesson 6. Inferential Statistics

- Chi-Square test
- ANOVA
- T-test

Lesson 7. Regression Analysis

- Linear Regression
- Logistic Regression
- Poisson Regression
- Mixed effects models
- Mixed Logit Models