



# Visualizing and Manipulating Data in Python

ANI\_105d | On-Demand | Automation and Insights | ⚙️

Course Duration: 1 hour

This self-paced eLearning course is a light-hearted introduction to data manipulation and visualization in Python. Students will manipulate data sets and create data visualization using Python libraries.

## Intended Audience

Those with some programming experience who are interested in data manipulation and visualization in Python.

## Objectives

After completing this course, the learner will be able to:

- Describe how to extract data from the CSV format
- Use the matplotlib module to visually represent data
- Use the Python Pandas to manipulate data
- Explain how to use Pandas clean data to eliminate outliers
- Explain how to access APIs
- Describe how to extract data from the JSON format
- Describe commonly used file formats in data science

## Course Prerequisites

No Prerequisites

## Outline

1. Introduction
  2. Extracting and Visualizing Data
    - 2.1 Extracting and Visualizing Data
    - 2.2 Code Challenge
  3. Data Manipulation
    - 3.1 Pandas Overview
    - 3.2 Data Manipulation
    - 3.3 Code Challenge
  4. Data Analysis
    - 4.1 Data Analysis
    - 4.2 Code Challenge
  5. Working with APIs
  6. Data Visualization
    - 6.1 Visualizing Data from JSON
- Final Assessment