Welcome to
INTERNSHIP STUDIO

Module 04 | Lesson 06
Data Visualization

Different types of Plots and uses

Introduction to Data Visualization

- Data visualization is a powerful technique for exploring and communicating insights from data.

- Pandas is a popular data manipulation library in Python, and Matplotlib is a widely used plotting library.

- In this presentation, we will learn how to create visualizations using Pandas and Matplotlib.

Why Data Visualization?

- Visualizations help us understand patterns, relationships, and trends in data.

- They enable us to communicate data-driven insights effectively.

- With data visualization, we can identify outliers, compare different variables, and make data-driven decisions.

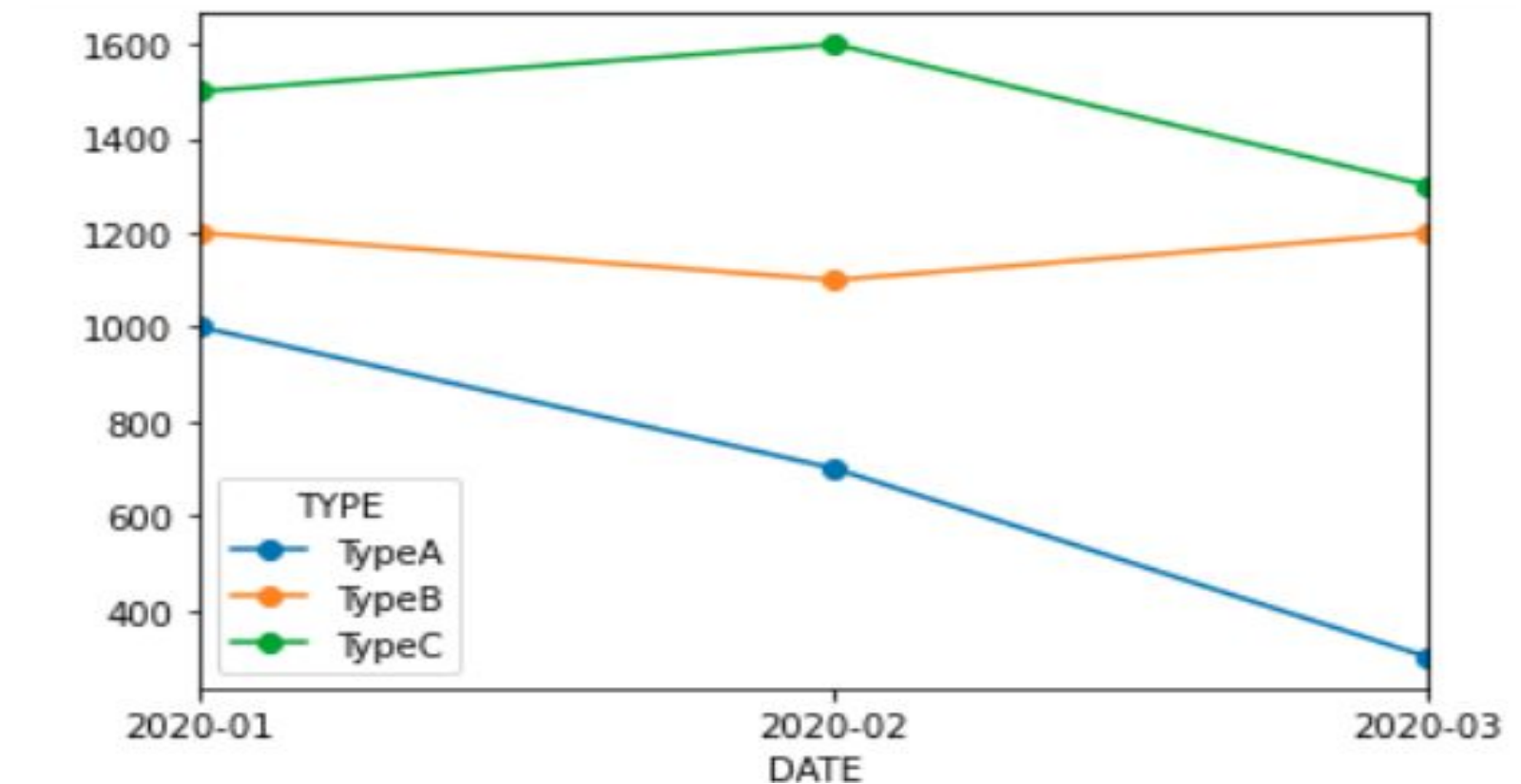# Key Libraries: Pandas and Matplotlib

- Pandas is a powerful library for data manipulation and analysis.

- Matplotlib is a flexible plotting library that integrates well with Pandas.

- Together, they provide a comprehensive toolkit for creating visualizations.

Data Preparation with Pandas

- Before visualizing data, we need to clean and transform it using Pandas.

- Pandas provides functions for handling missing values, filtering, and aggregating data.

- We'll explore some common data preparation techniques with Pandas.

Line Plots with Pandas and Matplotlib

- Line plots are useful for visualizing trends over time or continuous variables.

- Pandas integrates with Matplotlib to create line plots easily.

- We'll demonstrate how to create line plots using Pandas and Matplotlib.
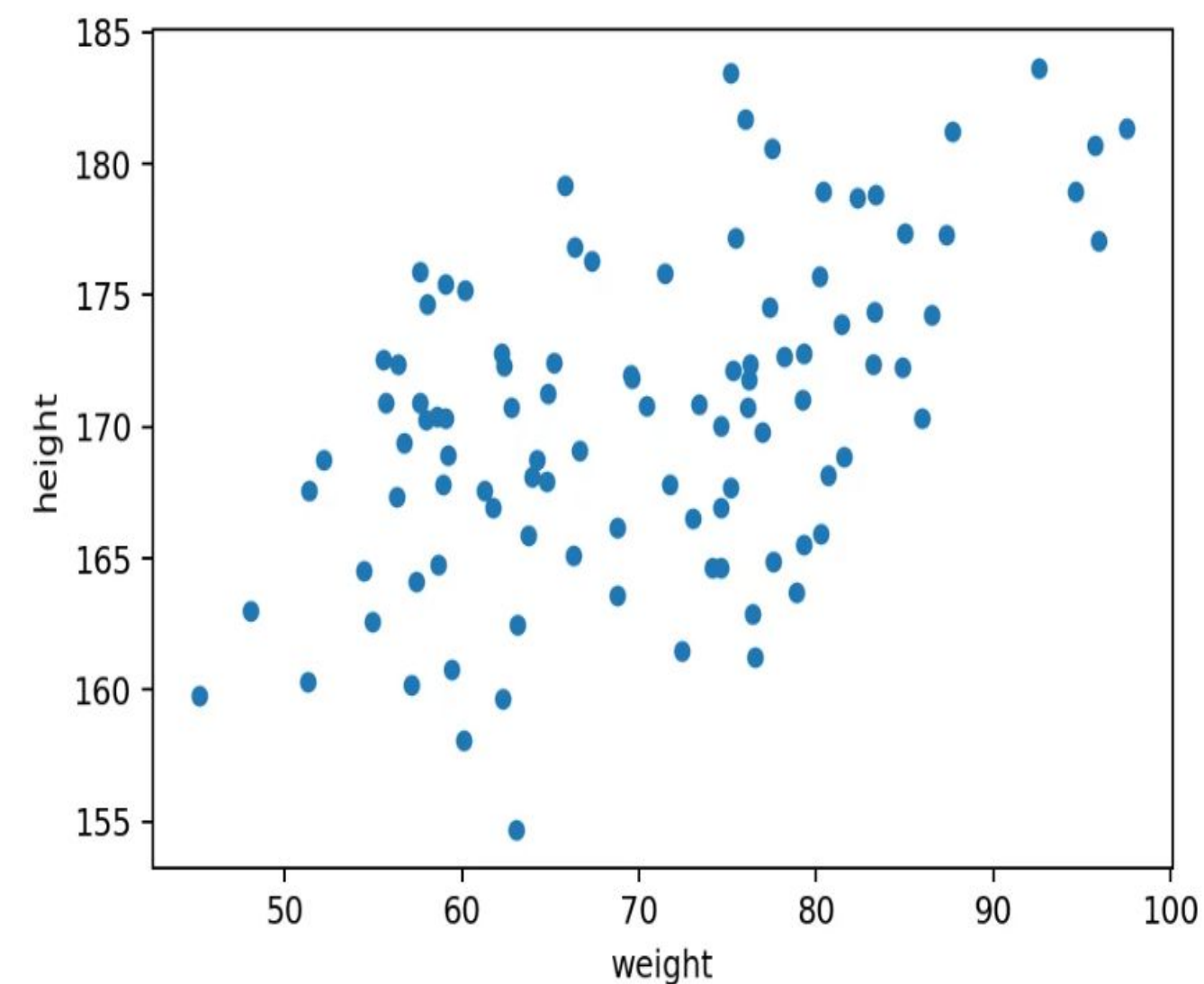
Bar Plots with Pandas and Matplotlib

- Bar plots are effective for comparing categories or discrete variables.

- Pandas simplifies the process of creating bar plots with Matplotlib.

- We'll showcase examples of bar plots using Pandas and Matplotlib.
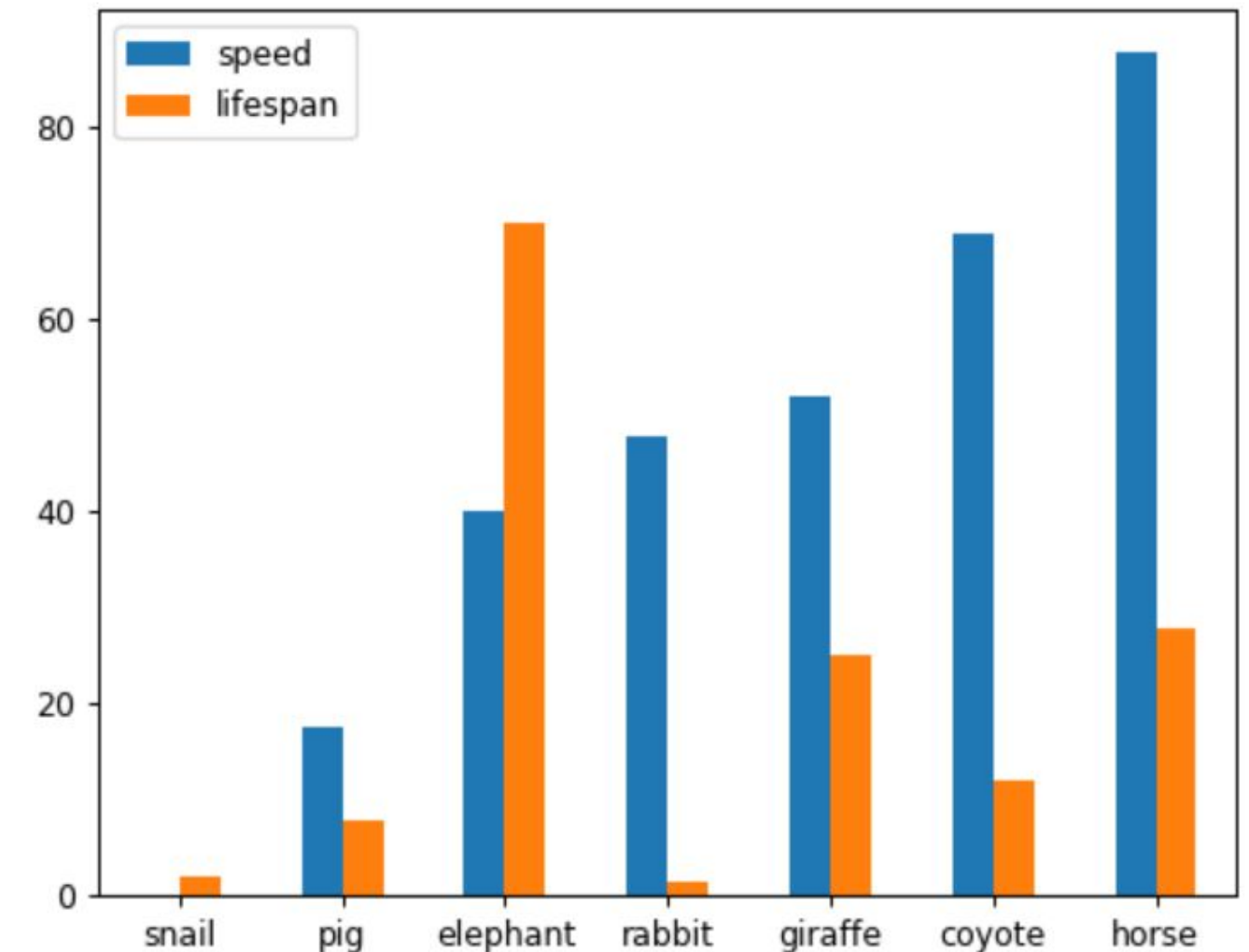
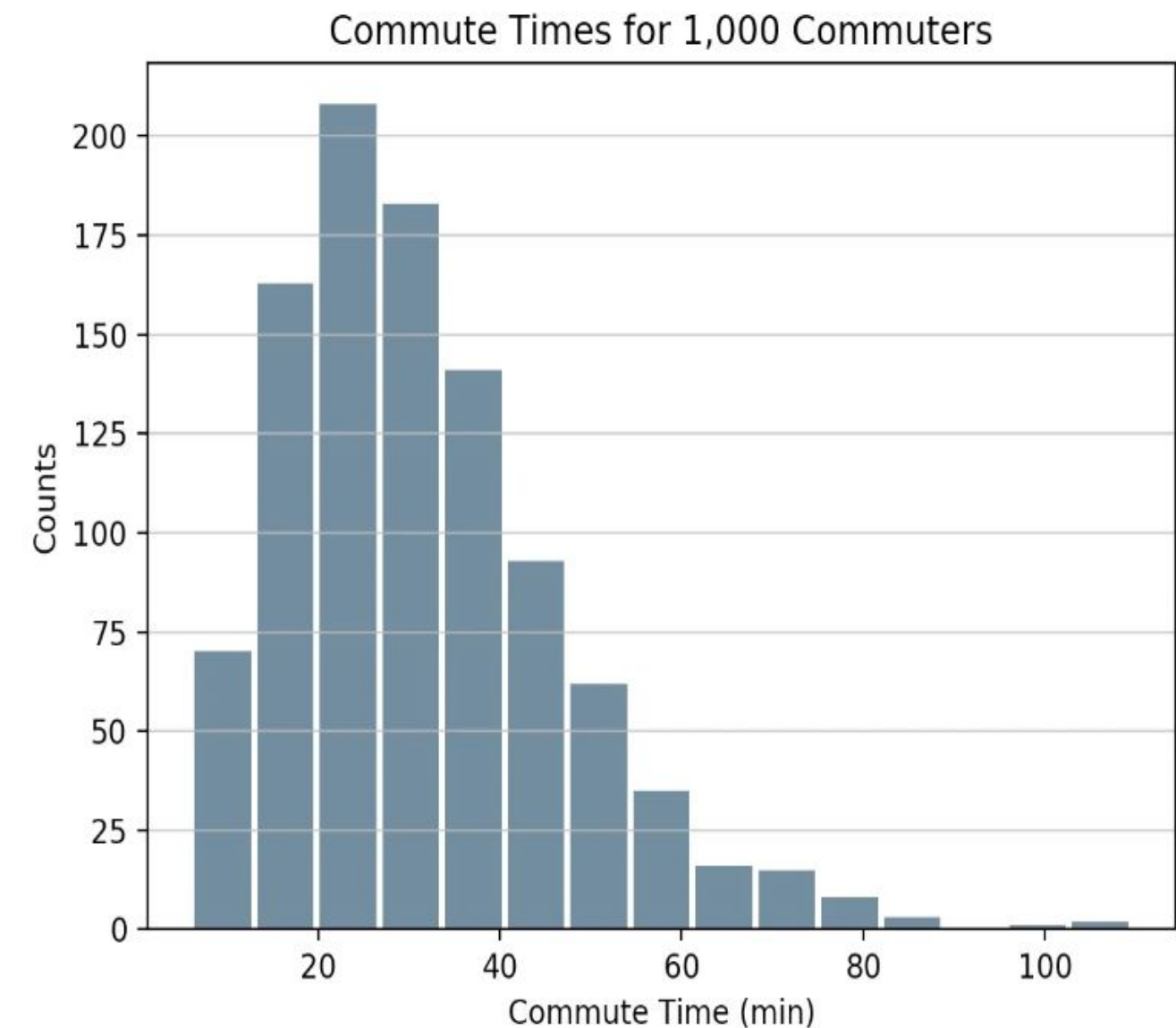# Scatter Plots with Pandas and Matplotlib

- Scatter plots are ideal for visualizing relationships between two numerical variables.

- Pandas facilitates the creation of scatter plots using Matplotlib.

- We'll illustrate how to generate scatter plots using Pandas and Matplotlib.
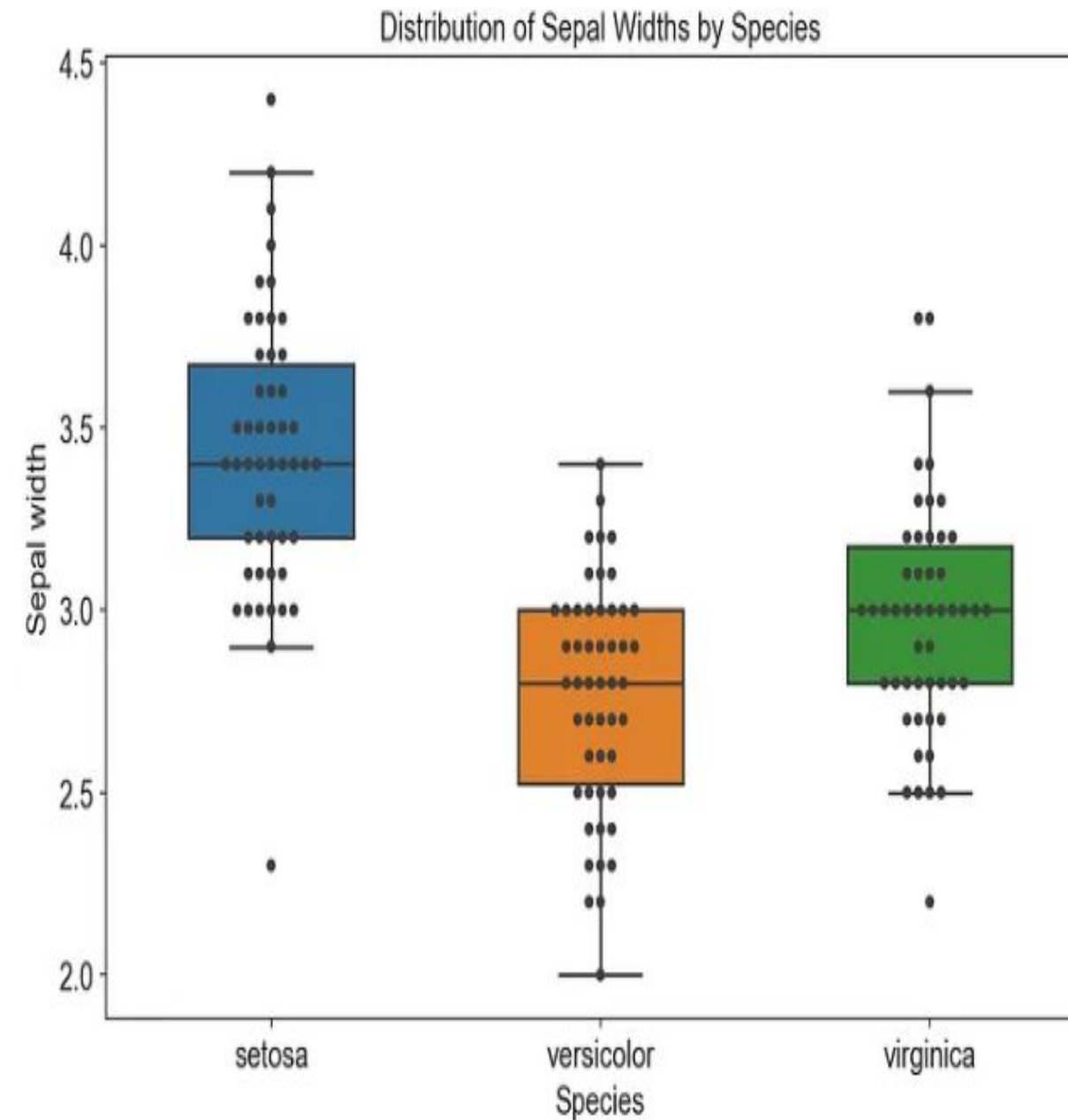
Histogram with Pandas and Matplotlib

- Histograms help us understand the distribution of numerical data.

- Pandas and Matplotlib make it easy to create histograms.

- We'll go through the process of creating histograms using Pandas and Matplotlib.

Commute Times for 1,000 Commuters

Histogram with Pandas and Matplotlib

- Pandas and Matplotlib offer a wide range of other visualization types

- We'll briefly touch on some additional types like pie charts, box plots, and heatmaps.

- You can explore these visualization options based on specific needs.
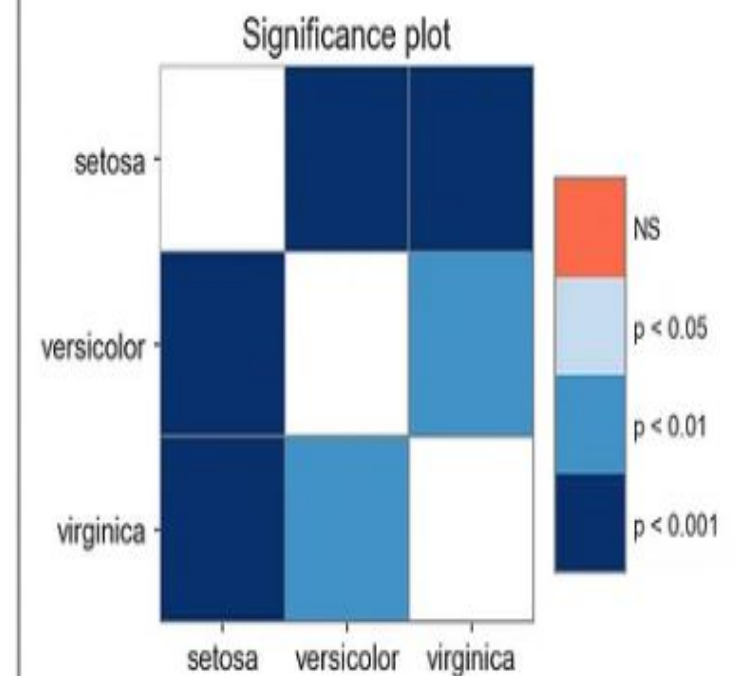
SUMMARY

You got this

- Data visualization is crucial for understanding and communicating insights.
- Pandas and Matplotlib provide a powerful combination for creating visualizations.
- Start experimenting with Pandas and Matplotlib to enhance your data visualization skills.

Next session

Live Coding