**Pandas Overview:**

Pandas (Version: 2.1.3) is a fast, powerful, flexible and easy to use open source data analysis and manipulation tool, built on top of the Python programming language. It excels in analyzing, cleaning, exploring, and manipulating data.

* **Data Structures:** pandas have two data structures

Series:

* A one-dimensional array with indexes.
* Represents a single column or row in a DataFrame.
* Essentially, it's a labeled array capable of holding any data type.

DataFrames:

* + A two-dimensional tabular structure.
  + Consists of rows and columns.
  + Each column is a Series.
* **DataFrame Creation:**
  + DataFrames can be created from the combination of Series.
  + When dealing with tabular data, Pandas is the preferred tool.

*pd.DataFrame(data)*

* **Key Functions and Concepts:**
  + **JSON and CSV:**
    - JSON is analogous to a Python Dictionary.
    - CSV stands for Comma-Separated Values.
  + **DataFrame Manipulation:**
    - **loc()**: Used for label-based indexing.
    - **dropna()**: Removes rows with NULL values. Use **inplace=True** to modify the original DataFrame.
    - **fillna()**: Replaces empty cells with a specified value.
* **Useful Tips:**
  + A DataFrame is like an Excel sheet.
  + The name "Pandas" references "Panel Data" and "Python Data Analysis."