Pandas Library

Definition of Pandas:
Pandas is an open-source Python library used for data manipulation and analysis. It provides data structures like Series (1D) and DataFrame (2D) that make handling structured data fast, easy, and expressive.

Features of Pandas:
1. **Data Structures:** Provides Series and DataFrame for handling data efficiently.
2. **Data Alignment:** Automatically aligns data from different sources.
3. **Handling Missing Data:** Provides tools for cleaning and filling missing values.
4. **Data Selection:** Allows easy indexing, slicing, and filtering of data.
5. **Input/Output Tools:** Supports reading and writing data from CSV, Excel, SQL, JSON, and more.
6. **Data Aggregation:** Supports group-by operations for summarizing data.
7. **Time Series:** Provides powerful tools for working with time-series data.
8. **Performance:** Optimized for speed using C and NumPy at its core.
9. **Integration:** Works well with other Python libraries like NumPy, Matplotlib, and Scikit-learn.