

Day 11 - June 19, 2024

Numpy Operations and Functions

Array Creation and Basic Operations

- Created a numpy array and printed its shape and data type.
- Performed element-wise addition and multiplication on arrays.
- Calculated square root, exponential, natural logarithm, base-10 logarithm, base-2 logarithm, sine, cosine, tangent, hyperbolic sine, hyperbolic cosine, and hyperbolic tangent of an array.

Sorting, Copying, and Broadcasting

- Sorted an array.
- Copied an array and demonstrated that changes to the copy do not affect the original array.
- Used broadcasting to add arrays of different shapes.

Pandas Overview

Key Features

- **Data Structures:** Series, DataFrame, Panel
- **Data Manipulation:** Indexing and Selection, Missing Data Handling, Aggregation and Grouping, Merging and Joining, Data Transformation
- **Data Analysis:** Time Series Analysis, Statistical Analysis, Visualization

Example Activities

- Created a Series and DataFrame.
- Created a MultiIndex DataFrame.
- Performed data manipulation tasks like indexing, handling missing data, aggregation, grouping, merging, and joining.
- Conducted time series analysis and statistical analysis.
- Visualized data using Pandas' built-in capabilities.