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CS3C

Dictionaries:
Python uses dictionaries for efficient data storage and retrieval, allowing values to be correlated with unique keys, similar to real-world dictionary definitions.

- Creation of New Dictionary: Use curly braces {} and specify key-value pairs.
- Accessing Items in the Dictionary: Retrieve values by referring to their keys.
- Change Values in the Dictionary: Assign a new value to a specific key.
- Loop Through a Dictionary Values: Use a loop to iterate through keys and values.
- Check if Key Exists in the Dictionary: Use the 'in' keyword to avoid accessing non-existent keys.
- Checking for Dictionary Length: Use the len() function to find the number of key-value pairs.
- Adding Items in the Dictionary: Assign a value to a new key to add new items.
- Removing Items in the Dictionary: Use the pop() method or the del statement to remove items.
- Remove an Item Using del Statement: Use the del statement to remove a specific item.
- The dict() constructor: Create a dictionary using the dict() constructor.
- Dictionary Methods: Explore methods like keys(), values(), and items() for dictionary operations.

Jupyter Notebook:
A popular tool for interactive computing and data research, allowing users to create and execute code, visualize data, and document their work. It supports various file management and data manipulation operations.

- Adding Folder: Use the file browser interface to add a new folder/directory.
- Adding Text File: Create a new text file or upload an existing one to the notebook.
- CSV File for Data Analysis and Visualization: CSV files are commonly used for tabular data. Import them using libraries like Pandas.
- Import Libraries: Import necessary libraries like Pandas, NumPy, and Matplotlib for data manipulation and analysis.
- Finding Data: Locate the CSV file or dataset you want to analyze.
- Importing Data: Use functions like read_csv() to import CSV files into suitable data structures like DataFrames.
- Data Attributes: Explore attributes like shape, dtypes, describe(), and head() to understand data better.