

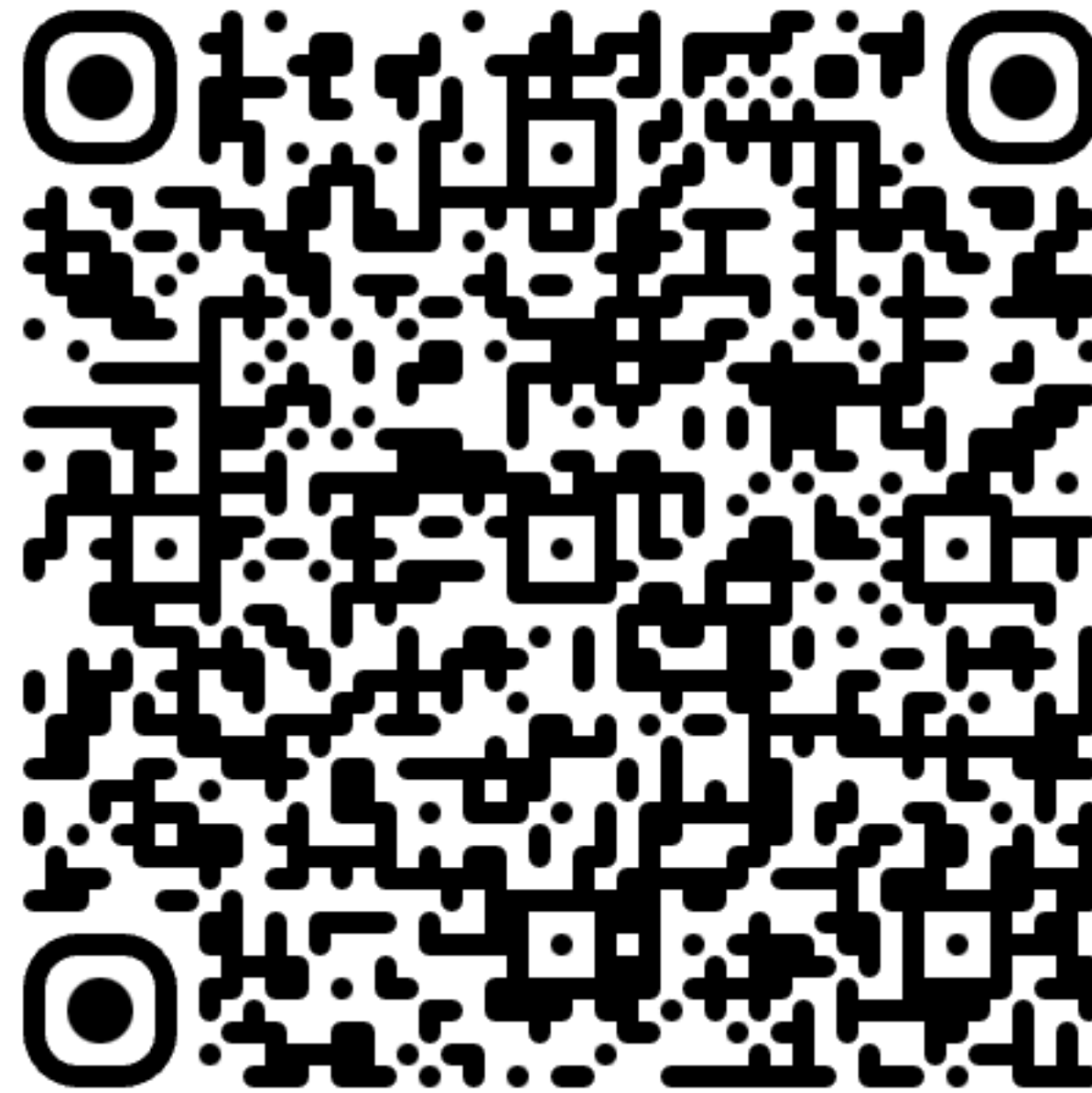
Coding for Economists

Session 4

Jian Cao

16 February 2025

Module Files



[Google Drive Folder](#)

Outline

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- File Handling

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- Data Collection

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- NumPy Basics

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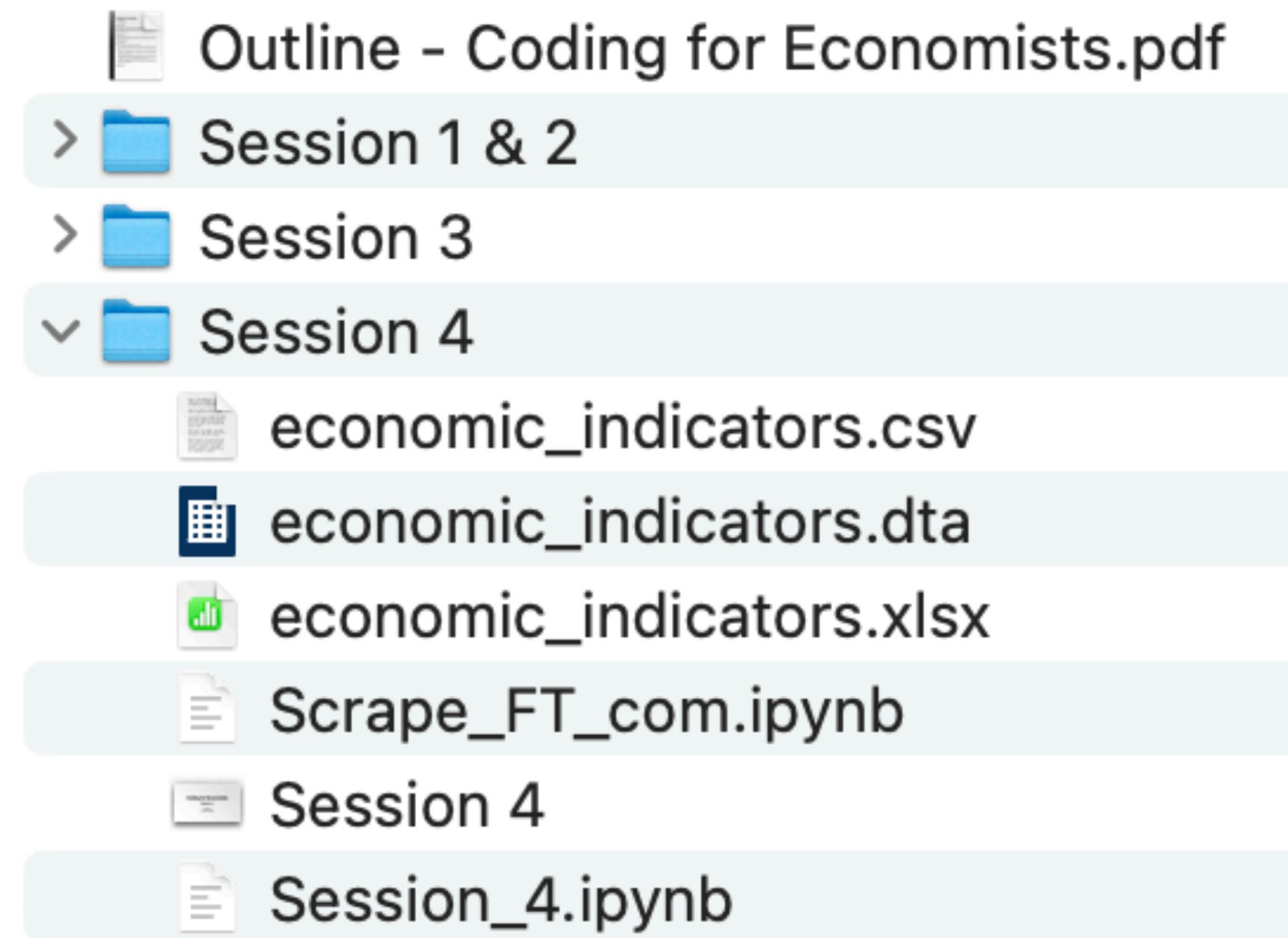
- File Handling
- Data Collection
- NumPy Basics
- Pandas Basics

Best Practice in File Handling



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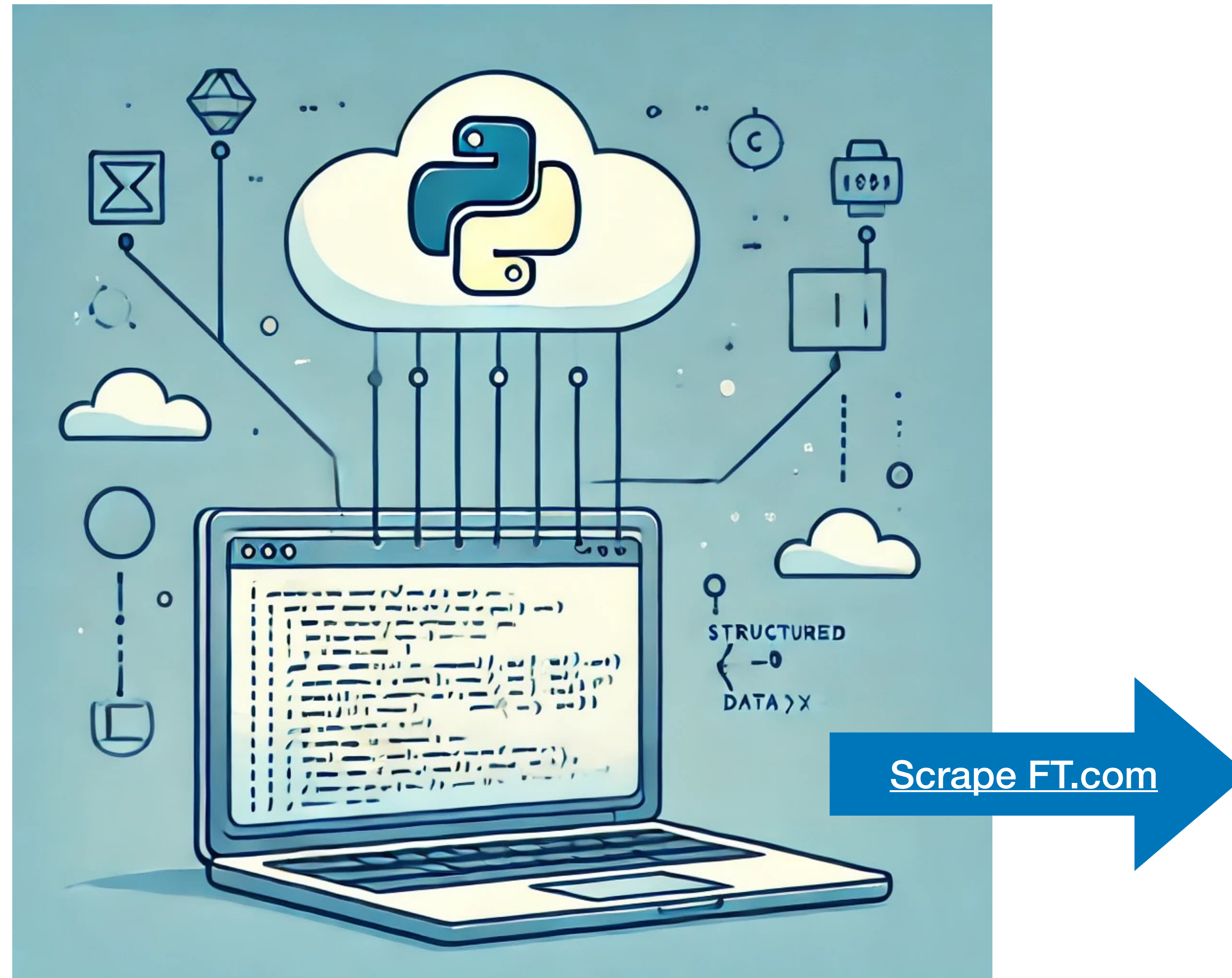


Session 4

Data APIs

- World Bank: [Document](#)
- FRED: [Document](#)
- IMF: [Document](#)
- OECD: [Document](#)
- Yahoo Finance: [Document](#)
- DBnomics: [Document](#)
- Facebook: [Document](#)
- New York Times: [Document](#)

Web Scraping



Data Manipulation

- NumPy: [Guide](#)
- Pandas: [Guide](#)

| Use Case | Optimal Data Structure | Reason | How to Create |
|--------------------------------|------------------------|---------------------------------|---|
| Loops, Temporary Storage | Lists | Easy syntax, Mixed-type | <pre>y = [1, 2, 'a', 'b']</pre> |
| Coordinates | Tuples | Immutable | <pre>y = (40.7128, -74.0060)</pre> |
| Paired Relationships | Dictionaries | Mapping keys to values | <pre>pet = {'name': 'coco', 'type': 'cat'}</pre> |
| Search Unique Items | Sets | Fast in searching | <pre>y = {'a', 'b', 'c'}</pre> |
| Computation, Linear Algebra | numpy.array | Fast in computing | <pre>y = np.array([[1, 2, 3], [4, 5, 6]])</pre> |
| Tabular Data | pandas.DataFrame | Integration with other tools | <pre>y = pd.DataFrame({'Type': ['a', 'b'], 'ID': [1, 2]})</pre> |