

TYPE	Fun Fact
List	Ordered, changeable, duplicates allowed
Dictionary	Ordered, changeable, duplicates allowed
Set	Unordered, unchangeable*, duplicates not allowed
Tuple	Unordered, unchangeable, duplicates allowed

Representing Datasets with Code

Column-oriented:

Grouping by features.

Row-oriented:

Grouping by a single observation.

Facebook_Friends		
Name	City	Age
Matt	Los Angeles	27
Dave	San Francisco	30
Tim	Oakland	33

Row Oriented Storage in Memory

Matt	Los Angeles	27	Dave	San Francisco	30	Tim	Oakland	33
------	-------------	----	------	---------------	----	-----	---------	----

Column Oriented Storage in Memory

Matt	Dave	Tim	Los Angeles	San Francisco	Oakland	27	30	33
------	------	-----	-------------	---------------	---------	----	----	----

Indexing

In order to access values in a collection type, we need to **index** into it.

- List
- Set
- Dictionary
- Tuple

Type	Indexing Pattern
List	name[index]
Dictionary	name[key]
Set	For Loop (next slide)
Tuple	name[index]

Iteration

You can repeat processes with loops or recursion in Python.

Python Loop Types:

- While Loop
- For Loop

```
while condition:  
    statements
```

```
for thing in collection:  
    statements
```

Useful Methods

Dictionaries:

- values()
- items()
- keys()

Lists:

- len()
- append()
- sort()

Other:

- range()
- print()
- split()
- type()
- int()
- str()