

## Collection types

-Very useful in data science because datasets are the collection of data!

Python's collection types:

- List
  - Ordered, changeable, duplicates allowed
- Dictionary
  - Ordered, changeable, duplicates not 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

## Indexing

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

- 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
  - while condition:
  - statements
- For loop
  - for thing in collection:
  - statements

## Useful Methods

-Dictionaries:

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

-Lists

- len()
- append()

- `sort()`

-Other:

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