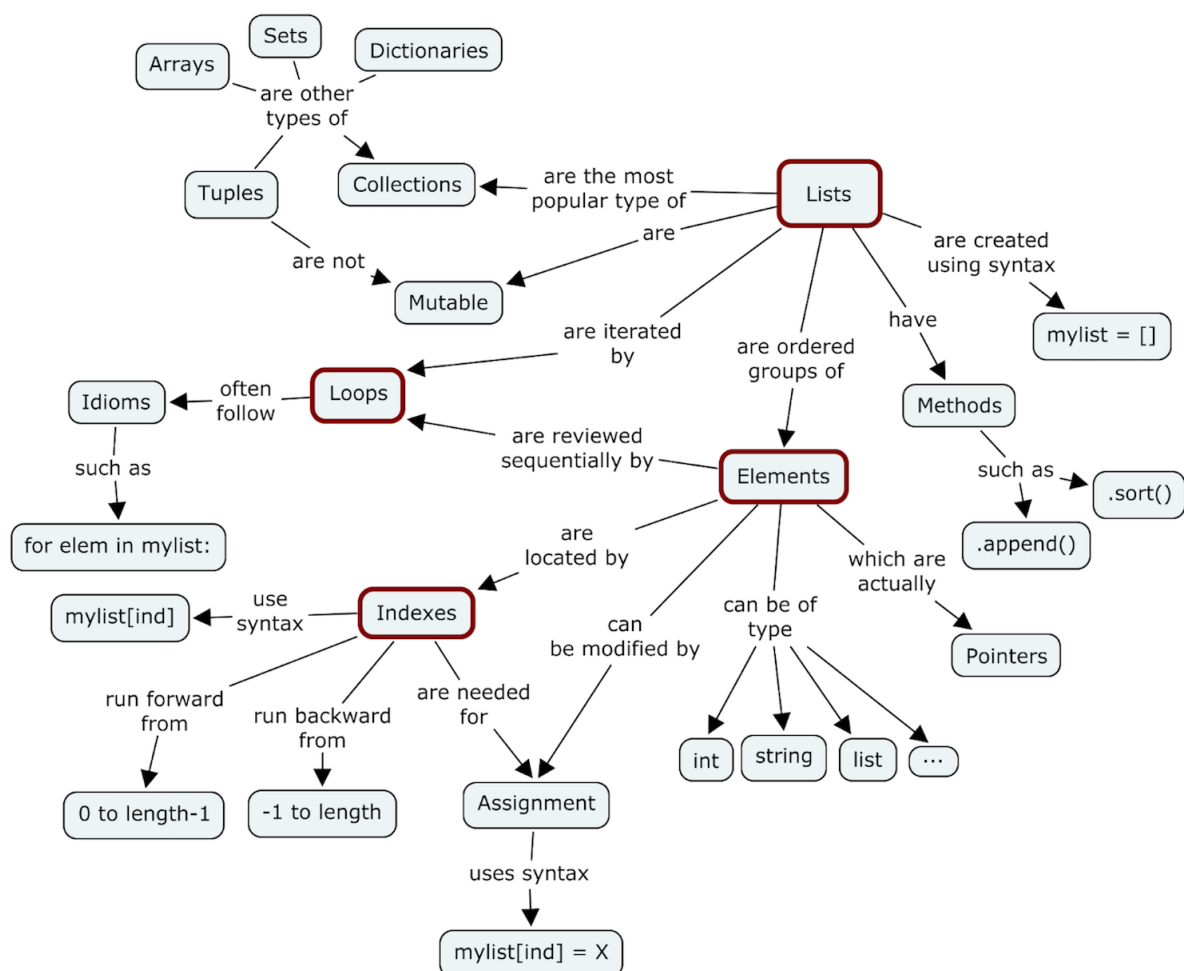


# Data Types

- A DATA TYPE consists of a set of values and a set of operations that can be performed on those values
- Types of data in Python:
  - Mutable:
    - ◆ Can be changed with built in methods / functions ( `pop()`, `append()` )
    - ◆ E.g. list, dictionary
  - Immutable:
    - ◆ Can't be changed with built in methods / functions
    - ◆ Must be reassigned
    - ◆ E.g. integer, string, tuple



- **Integers**
  - Infinite range, only limited by computer memory

- Integer literals written without commas
- **List**
  - Array for python
  - Initialise: *MyArray* = [ ]
- **Tuple**
  - Immutable list
  - Initialise: *MyTuple* = ( )
- **Dictionary**
  - Maps key to value
  - Initialise: *MyDict* = { }
- **Float-point Numbers**
  - Used to represent **real** numbers
  - Typical precision: 16 digits
  - Python: round to d.p. using *round( )* function
- **Strings**
  - Text processing: most common application of computing
  - **ord( )** and **chr( )** converts characters to and from **ASCII**
- **Boolean**
  - Consists of two values
  - Representation:
    - ◆ True / False
    - ◆ 1 / 0