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 build 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