

## Python Cheat Sheet

### Data Types

Strings	"Hueston, we have a problem"
Integers	35
Floats	35.6
Boolean	True/False

### Data Collection Data Types

List : ["apple", 12, "computer science", "apple", 13.2]

- Order is saved
- Can be rearranged after list is defined
- Can contain duplicates
- Elements can be added or removed
- Indicated by square brackets

Tuple : ("apple", 29, 32)

- Order is saved
- Order cannot be rearranged after tuple is defined
- Can contain duplicates
- Elements cannot be added or removed
- Indicated by parentheses

Set : {"orange", "house", 102}

- Order is not saved (unordered)
- Cannot contain duplicates
- Cannot add or remove elements once defined
- Indicated by curly brackets
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Dictionary: {"name": "Anne", "age": 19, "major": "communications"}

- Stores data in key/value pairs
- Order is saved (as of Python 3.7)
- Duplicate values permitted, but not duplicate keys within one item
- Elements can be added and removed
- Indicated by curly brackets and colons

**Operators Arithmetic Operators**

+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus (divide and return the remainder)
**	Exponential
//	Floor division (divide and round down to the nearest whole number)

**Python Comparison Operators**

==	Equal to
!=	Not equal to
>	Greater than
<	Less than
>=	Great than or equal to
<=	Less than or equal to

**Converting Data Types**

str()	Convert and integer or float to a string
int()	Convert a whole number in string form to an integer
float()	Convert a number in string form, or an integer, into a float

**Indices**

- An index is the position of an element in a list or tuple
- In python, the index starts with 0
- Elements can be access by index with the following syntax: list[i]

**Python Built-In Functions**

- Python has a number of functions that come pre-written for use. The full list can be viewed at:  
<https://docs.python.org/3/library/functions.html>

Below are some of the built-in functions we have encountered in class so far:

<code>print()</code>	Prints out the data contained in the parenthesis
<code>len()</code>	Prints the number of elements in a string, list, dictionary, tuple or set
<code>input()</code>	Prompts for user input in response to query in parenthesis
<code>type()</code>	Returns the type of the data entered in parentheses
<code>range()</code>	Returns a sequence of numbers within a set range