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
-

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]

Conditional Statements: if/elif/else

Use example:

```
number = 0
if number > 0:

        print('Positive number’)

elif number <0:

        print('Negative number’)

else:

        print('Zero') print('This statement is always executed')
```

For Loops:

Used to iterate through a data collection or range.

Form	for variable in collection: #do something with variable

Example code	odds = [1, 3, 5, 7]
	for num in odds:
	        print(num)

Example output	1 3 5 7

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:

print()	Prints out the data contained in the parenthesis
len()	Prints the number of elements in a string, list, dictionary, tuple or set
input()	Prompts for user input in response to query in parenthesis
type()	Returns the type of the data entered in parentheses
range()	Returns a sequence of numbers within a set range
open()	Opens a file and returns it as a file object. Should specify encoding and mode.

Python Methods

.read()	Reads a file object
.write()	Writes argument contained in parentheses to file object
.split()	Splits a string based on delimiter specified in parentheses (default is split on white space)

Pandas Methods

read_csv()	Reads the contents of a file to a dataframe. Column Delimiter specified in parentheses, default is a comma.
.head()	Returns the first 10 rows of the dataframe
.info()	Returns a summary of the dataframe
.describe()	Returns summary statistics about the dataframe
.loc()	Access a particular subset of rows or columns
.mean()	Returns the mean of the data passed to it.
.min()	Returns the maximum datum of the data passed to it.
.max()	Returns the minimum datum of the data passed to it.
.values()	Returns the values of the data passed to it, without headers.