Introduction to Python

Python List Slicing

```
fam = ["liz", 1.73, "emma", 1.68, "mom", 1.71, "dad", 1,89]

print(fam[3:5])

#Output:
[1.68, "mom"
```

Numpy Array

- can only contain one data type
- used to to perform calculation in one go without using for loop

```
import numpy as np
height = [1.56, 1.78, 1.68]
weight = [40.5, 60.5, 56.8]

np_height = np.array(height)
np_weight = np.array(weight)

bmi = np_weight / np_height ** 2
print(bmi)
```

Numpy Subsetting

- can use the index to search the value

```
print bmi[1]

#Output:
#19.095
```

- find the value bigger than

```
print(bmi > 20)
array([False, False, True])

#show the exactly value
print(bmi[bmi > 20])
array([20.125])
```

2D Numpy Arrays

```
np_2d = np.array([1.56, 1.78, 1.68],[40.5, 60.5, 56.8])
print(np_2d)

#Output:
#array([1.56, 1.78, 1.68],[40.5, 60.5, 56.8])

#shape is a attribute of the 2d arrays which will tell you more information about the data structure
print(np_2d.shape)

#Output:
#(2, 5) -->  2 rows, 5 columns
```

2D Numpy Arrays Subsetting

```
#to select the third element from first row
print(np_2d[0][2])
#or
print(np_2d[0,2]) #row: column

#Output:
#1.68
```