NUMPY CHEATSHEET

np – alias of Numpy
arr - A Numpy array object

Importing & Exporting Data	
np.loadtxt('file.txt')	From a Text file
np.genfromtxt('file.csv', delimiter=',')	From a CSV File
np.savetxt('file.txt', arr, delimiter=' ')	Writes to a Text File
np.savetxt('file.csv, arr, delimiter=' , ')	Writes to a CSV File

Creating Arrays	
np.array([1,2,3])	Creates a One-dimensional Array
np.array([(1,2,3),(4,5,6)])	Creates a Two-dimensional Array
np.zeros(3)	1D array of length 3 with all values as 0
np.ones((3,4))	3x4 array with all values 1
np.random.randint(5, size=(2,3))	2x3 array with random integers between 0-4
np.arange(0,10,3)	Array of values from 0 to less than 10 with step 3 (Example: [0,3,6,9])
np.linspace(0,100,6)	Array of 6 evenly divided values from 0 to 100

Statistics	
np.mean(arr, axis=0)	Returns mean along specific axis
arr.sum()	Returns sum of arr
arr.min()	Returns minimum value of arr
arr.max(axis=0)	Returns maximum value of specific axis
np.var(arr)	Returns the variance of array
np.std(arr, axis=1)	Returns the standard deviation of specific axis

Add & remove	
np.append(arr, values)	Appends values to end of arr
np.insert(arr, 2, values)	Inserts values into arr before index 2
np.delete(arr, 3, axis=0)	Deletes row on index 3 of arr
np.delete(arr, 4, axis=1)	Deletes column on index 4 of arr

Indexing & Slicing	
arr[2]	Returns the element at index 2
arr[2,4]	Returns the 2D array element on index [2][4]
arr[1]=6	Assigns array element on index 1 the value 6
arr[0:3]	Returns the elements at indices 0,1,2 (On a 2D array: returns rows 0,1,2)
arr[arr < 5]	Returns array elements smaller than 5
arr[0:3,4]	Returns the elements on rows 0,1,2 at column 4

Math	
np.add(arr1, arr2)	Elementwise add arr2 to arr1
np.subtract(arr1, arr2)	Elementwise subtract arr2 from arr1
np.sin(arr)	Sine of each element in the array
np.log(arr)	Natural log of each element in the array
np.ceil(arr)	Rounds up to the nearest int
np.round(arr)	Rounds to the nearest int
np.power(arr1, arr2)	Elementwise raise arr1 raised to the power of arr2
np.abs(arr)	Absolute value of each element in the array
np.multiply(arr1, arr2)	Elementwise multiply arr1 by arr2
np.divide(arr1, arr2)	Elementwise divide arr1 by arr2