**Lists**

Add to a list with list\_name.append(‘string or whatever’) OR

List\_name.insert(1,’string or whatever’) *where 1 is an index*

**Dictionaries** (exd = example dictionary)

Retrieve an item by its key

exd[‘key\_a’]

Check to see if a key exists

exd.get[‘key\_a’] OR ‘key\_a’ in exd

Add to a dictionary

Exd[‘key\_d’] = 2.1

Join dictionaries

Exd.update(exd\_2) *where exd\_2 is another dictionary*

Print all keys Print out all values Print out all as tuples

exd.keys() exd.values() exd.items()

Delete everything in a library

Exd.clear()

**Functions**

Create an input line

extext = *type*(raw\_input ("The text you want to give as a prompt to the input"))

Performing functions on items in a list

words = ['alpha', 'bravo', 'charlie', 'delta', 'echo']

letters = []

for w in words:

u = w.upper()[0]

# w is defined as an item that appears in the list words

# .upper makes whatever comes after it upper case

**# () selects every item in the list (because the parenthesis are empty)**

**# [0] selects the first letter of each item indicated in the parenthesis (in this case, every item)**

letters.append(u)

**Various code**

Create a random number (from 1-10 in this example)

randint(1, 10)

**Jupyter tricks and shortcuts**

will show line #s

Esc and then lowercase l

Block reduce indent:

Control/CMD/Win and [

**Working with data files**

To open a csv:

import csv

print 'Opening File. Data: '

print ''

with open('*data file path*, 'rU') as f:

reader = csv.reader(f)

To view data in csv

import csv

print 'Opening File. Data: '

print ''

with open('*data file path*, 'rU') as f:

reader = csv.reader(f)

for row in reader:

print row

**Comprehension shortcuts**

LONG WAY

newlist = []

for x in exlist:

n = x\*10

newlist.append(n)

SHORT WAY

newlist = [x\*10 for x in exlist]

*you DO NOT need to create the empty newlist first, either*

LONG WAY

orig\_list = [0, 1, 2, 3, 4, 5]

newlist = []

for n in orig\_list:

if o % 2 == 0:

newlist.append(1)

else:

newlist.append(0)

SHORT WAY

newlistlist = [1 if o % 2 == 0 else 0 for o in orig\_list]

Challenges yet to conquer:

<https://github.com/ga-students/DSI-NYC-2/blob/master/curriculum/week-01/3.2-list-comprehension/w1d3-comprehensions-lecture.ipynb>

<https://github.com/ga-students/DSI-NYC-2/blob/master/curriculum/week-01/2.3-intro-to-python-2/code/w1-1.4-bonus-starter.ipynb>

output = {}

for line\_items in example\_input:

key = type(line\_items) #e.g. bool, float, int ..etc

dict\_value = output.get(key)

#value for each type bucket is the list(aka value) associated with that key

#print type(current\_type\_items), current\_type\_items, type(value)

#print ""

if dict\_value:

dict\_value.append(line\_items)

#if a list exists as a value in the dictionary, add the line item to the list

else:

dict\_value = [line\_items]

#if the list associated with a key(type) doesn't exist, start one

output.update({key: dict\_value})

#add the value (item from the example list) to the dictionary under the appropriate key(the type)

Output