PYTHON

* #comments
* “”” docstring “””
* print():

print(‘hello’, ends= ‘ ‘)

print (’World’)

* input(): waits for user to type something
* len():
* str()
* int()
* float()
* == equal to
* != not equal to
* <= less than or equal to
* >= greater than or equal to
* Boolean operators
  + And
  + Or
* If
* Else
* Elif
* While
  + Break
  + Continue: the program execution immediately jumps back to the start of the loop and reevaluates the loop’s condition
  + Trapped in an infinite loop: CTRL-C
* Range: the third value is the amount that the variable is increased by after each iteration. Range (5, -1, -1) should print from five down to zero
* Import
  + Random.randit(1,10)
  + Sys.exit(): causes the program to terminate
  + Os
  + Math
* Return
* None
* Sep=’,’: deletes the default separating space between strings

>>> **print('cats', 'dogs', 'mice')**

cats dogs mice

>>> print('cats', 'dogs', 'mice', sep=',')

cats,dogs,mice

* Global: to modify a global variable from within a function

Lists []

* Getting individual values with indexes: list[1]
* Getting sublists with slices: list[0:4], list[:1]
* Changing values: list[0]= ‘hey’
* Removing values: del list[2]
* Finding a value: list.index(‘hey’)
* Adding a value: list.append(‘hello’)
* Inserting a value = list.insert(1, ‘hi’)
* Removing a value = list.remove(‘hello’)
* Sorting the values = list.sort()
  + List.sort(reverse=True)
  + Normal alphabetical order = list.sort(key=str.lower)
* Copy a list: import copy

Copy.copy(list)

>>> supplies = ['pens', 'staplers', 'flame-throwers', 'binders']

>>> for i in range(len(supplies)):

print('Index ' + str(i) + ' in supplies is: ' + supplies[i])

* In
* Not in
* +=1, -=1, \*=1, /=1, %=1

Tuples

* Immutable

Converting between lists and tuples

* Tuple([])
* List(())

Dictionaries {}

* myDictionary = {‘word’: ‘one’, ‘word2’: ‘two’}
  + the dictionary’s keys are ‘word’ and ‘word2’
  + the values are ‘one’, ‘two’
* myDictionary = [‘word’] prints ‘one’
* items are unordered

birthdays = {'Alice': 'Apr 1', 'Bob': 'Dec 12', 'Carol': 'Mar 4'}

while True:

print('Enter a name: (blank to quit)')

name = input()

if name == '':

break

if name in birthdays:

print(birthdays[name] + ' is the birthday of ' + name)

else:

print('I do not have birthday information for ' + name)

print('What is their birthday?')

bday = input()

birthdays[name] = bday

print('Birthday database updated.')

* to only print the values: for a in dictionary.values():
* to only print the keys: for a in dictionary.keys():
* to print everything: for a in dictionary.items():

these return tuples, to make it return a list: list(dictionary.keys())

>>> **spam = {'color': 'red', 'age': 42}**

>>> **for k, v in spam.items():**

**print('Key: ' + k + ' Value: ' + str(v))**

Key: age Value: 42

Key: color Value: red

* checking if a key or value exists in a dictionary:
  + ‘name’ in spam.keys()
  + ‘name’ in spam.values()
* Get(): takes two arguments, the key of the value to retrieve and a fallback value to return if that key does not exist

>>> **picnicItems = {'apples': 5, 'cups': 2}**

>>> **'I am bringing ' + str(picnicItems.get('cups', 0)) + ' cups.'**

'I am bringing 2 cups.'

>>> **'I am bringing ' + str(picnicItems.get('eggs', 0)) + ' eggs.'**

'I am bringing 0 eggs.'

* Setdefault(): The first argument passed to the method is the key to check for, and the second argument is the value to set at that key if the key does not exist.

>>> **spam = {'name': 'Pooka', 'age': 5}**

>>> **spam.setdefault('color', 'black')**

'black'