Week1

Lecture1

A computational mode of thinking means that everything can be viewed as a math problem involving numbers and formulas.

True

Determines whether a string is legal

Syntax

Determines whether a string has meaning

Static semantics

Assigns a meaning to a legal sentence

Semantics

None

Nonetype

4 > 5 or 3 < 4 and 9 > 8

True

5\*2 == 5.0 \* 2.0

Bool

True

Operator overloading

> str1 = 'hello'

> str2 = ','

> str3 = 'world'

str4 = str1 + str3

'low' in str4

Bool,True

temp = '32'

if temp > 85:

print "Hot"

elif temp > 62:

print "Comfortable"

else:

print "Cold"

result: Hot

Essentially, "...the choice whether one object is considered smaller or larger than another one is made arbitrarily but consistently" means that when comparing objects of different types (ex. string with an int) the choice of which to always be larger was made arbitrarily. In this case, any string is always bigger than any int

Week3

Lecture 3

range(10, 3, -1)

[10,9,8,7,6,5,4]

>>> aList = range(1, 6)

>>> bList = aList

>>> aList[2] = 'hello'

>>> aList == bList

aList is bList

True

>>> cList = range(6, 1, -1)

>>> dList = []

>>> for num in cList:

dList.append(num)

>>> cList == dList

cList == dList

True

cList is dList

False

L6p6

> listA = [1, 4, 3, 0]

> listB = ['x', 'z', 't', 'q']

listA.sort()

return Nothing

listA

# sort will change the value of the list

[0,1,3,4]

listA.insert(0, 100)

return Nothing

# but now listA = [100,0,1,3,4]

# .insert(i, x)

#Insert an item at a given position. The first argument is the index of the element before which to insert, so a.insert(0, x) inserts at the front of the list, and a.insert(len(a), x) is equivalent to a.append(x).

listB.sort()

listB.pop()

string ‘z’

# pop Remove the item at the given position in the list, and return it. If no index is specified, a.pop() removes and returns the last item in the list.

listB.count('a')

int 0

listA.index(1)

int 0

#.index(x)

Return the index in the list of the first item whose value is x. It is an error if there is no such item.

L6p8

animals = {'a': 'aardvark', 'b': 'baboon', 'c': 'coati'}

animals['d'] = 'donkey'

>>> animals.has\_key('baboon')

False

>>> 'donkey' in animals.values()

True

>>> animals.has\_key('b')

True

>>> animals.keys()

['a','b','c','d']

>>> del animals['b']

>>> len(animals)

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