1. What exactly is []?

Empty List

1. In a list of values stored in a variable called spam, how would you assign the value 'hello' as the third value? (Assume [2, 4, 6, 8, 10] are in spam.)

spam=[2, 4, 6, 8, 10]

spam.insert(3,"hello")

spam

[2, 4, 6, 'hello', 8, 10]

Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.

1. What is the value of spam[int(int('3' \* 2) / 11)]?

[3]

1. What is the value of spam[-1]?

‘d’

1. What is the value of spam[:2]?

[‘a’,’b’]

Let's pretend bacon has the list [3.14, 'cat,' 11, 'cat,' True] for the next three questions.

1. What is the value of bacon.index('cat')?

1

1. How does bacon.append(99) change the look of the list value in bacon?

[3.14, 'cat', 11, 'cat', True, 99]

8. How does bacon.remove('cat') change the look of the list in bacon?

[3.14, 11, 'cat', True, 99]

1. What are the list concatenation and list replication operators?

Bacon=[3.14, 11, 'cat', True, 99]

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

concat=bacon+spam

[3.14, 11, 'cat', True, 99, 'a', 'b', 'c', 'd']

Replicate=spam\*3

Replicate

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

1. What is difference between the list methods append() and insert()?

spam.append("hello")

spam

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

Append() – append the items in the end of the list

spam.insert(2,"insert")

spam

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

Insert()-insert the item in index in the list

11. What are the two methods for removing items from a list?

Spam=['a', 'b', 'insert', 'c', 'd', 'hello']

spam.pop(3)

spam

['a', 'b', 'insert', 'd', 'hello']

spam.remove('hello')

spam

['a', 'b', 'insert', 'd']

12. Describe how list values and string values are identical.

List and String have length – list length is determined by the items in the list and string length is determined no of char.

List and string have position know as index.

13. What's the difference between tuples and lists?

Tuples are immutable

T=(1,2,4,41,32)

T[2]

4

T[2]=56

**TypeError**: 'tuple' object does not support item assignment

List are mutable

t=[1,12,432,123,11]

t[3]

output:

123

t[3]=56

t

output:

[1, 12, 432, 56, 11]

14. How do you type a tuple value that only contains the integer 42?

T=(42,)

T

Output:

(42,)

In [21]:

type(T)

tuple

15. How do you get a list value's tuple form? How do you get a tuple value's list form?

To get list value’s tuple form

T=(1,2,34,53)

Lst=list(T)

Lst

Output:

[1, 2, 34, 53]

In [ ]:

To get a tuple value’s list form:

Lst = [1, 2, 34, 53]

Tup=tuple(Lst)

Tup

Output:

(1, 2, 34, 53)

In [ ]:

16. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain?

Both list is just a reference to the same list object

a=[12,4,24,124]

a=b

print(id(a))

output:

2601809429120

print(id(b))

output:

2601809429120

a.append(9)

print(a)

output:

[12, 4, 24, 124, 9]

In [40]:

print(b)

Output:

[12, 4, 24, 124, 9]

In [ ]:

17. How do you distinguish between copy.copy() and copy.deepcopy()?

Copy.copy() – will affect the orginal list

Copy.deepcopy() – will create a copy and will not affect the orginal copy

import copy

a=[[2,34,23,123],[34,123,123,141,344]]

b=copy.copy(a)

c=copy.deepcopy(a)

b[0][0]=300

c[0][0]=400

print(a)

print(b)

print(c)

Output:

[[300, 34, 23, 123], [34, 123, 123, 141, 344]]

[[300, 34, 23, 123], [34, 123, 123, 141, 344]]

[[400, 34, 23, 123], [34, 123, 123, 141, 344]]