1. What exactly is []?

[ ] is an empty list. It may contain data types like Strings, Boolean values, Integers. Lists are mutable, hence they can be altered even after the creation.

2. 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] = ‘hello’ (Index starts from 0 in python. So third place index would be 2.)

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

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

The result is ‘d’.

The calculations is as follows :

spam [int(int(‘3’\*2)/11)]

spam [int(int(‘33’)/11)]

spam [int(33/11)]

spam[int(3)]

spam[3] == ‘d’

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

In Python the index from the end starts with -1 and the one before the last will be -2 and so on.

spam[-1] == ‘d’

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

In python values in list can be called using index. However the last index value mentioned will be excluded. So the resulting value if spam[:2] will be [‘a’, ‘b’]

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

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

The index () method will give the index of value within the braces. However, it will show the result of first occurrence of the value within the list

bacon.index('cat') = 1

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

Append () method will append the list with the value given within the braces in the last position.

[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]

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

The operator for list concatenation is +, while the replication operator is \*

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

Append () will add values to the end of the list while insert () option will update the value in the position we want e.g. insert(3,”kalyan”) will update the value “kalyan” in 3rd position.

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

list = ["apple", "banana", "cherry"]

list.remove(“apple”)

list after remove list =[“banana”, “cherry”]

list.pop(1)

new values will be list = [“cherry”]

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

string and list are both iterables. They both can be spliced through “+” , repeated through “\*” , index sliced[:],[::]

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

|  |  |
| --- | --- |
| LISTS | TUPLES |
| Lists are mutable | Tuples are immutable |
| The list is better for performing operations, such as insertion and deletion. | Tuple data type is appropriate for accessing the elements |
| Lists consume more memory | Tuple consume less memory as compared to the list |
| Lists have several built-in methods | Tuple does not have many built-in methods. |

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

T = (42,)

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

# get a list value's tuple form

l = [32,45,"kalyan"]

print(type(l))

tup = tuple(l)

print(type(tup))

Result : <class 'list'>

<class 'tuple'>

# get a tuple value's list form

s = (32,45,"kalyan")

print(type(s))

lis = list(s)

print(type(s))

Result : <class 'tuple'>

<class ‘list’>

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

Variables copies the reference of the list but not the list itself.

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

A copy. Copy() constructs a new compound object and then (to the extent possible) inserts references into it to the objects found in the original.

A copy.deep.copy() constructs a new compound object and then, recursively, inserts copies into it of the objects found in the original.