1. What exactly is []?

This is called as an empty list and type is list

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'

Here considered 3rd value as from 0,1,2 so index 2 as 3rd

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)]? :d

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

5. 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.

Correct list: [3.14, 'cat', 11, 'cat', True]

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

7. 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]

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

We can concatenate the list with + operator.

And replicate with \* operator

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

The append method will be appends the element at the end of the list.

Whereas insert method will insert the elements at a particular index and we also need to define the index while executing.

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

Remove and pop

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

For both the list and string we can perform the slicing and indexing and can access the values with index. Also we can store the entire string in the form of list can be accessed with indexing.

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

The list are mutable whereas the tuples are immutable means the elements can’t be changed in the tuples whereas in list we can change the elements by assigning them with different values with the help of indexes.

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

T= tuple(42,)

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

Tuple form:

l = [1,2,3,4,5]

tuple(l)

List form:

l = (1,2,3,4,5)

list(l)

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

They contained the reference of those values from those references we can retrieve the values from list.

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

Here the copy.copy() : with this we can copy the objects and the reference to the object so change in the new object that also changes in the original objects as well in case of nested objects.

Whereas in the deepcopy in case if we change the object instead object of a copied object then it will not make any change to the original objects.