1. What exactly is []?

🡪 [] is an empty list. It is a list which contains no items in it.

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.)

🡪 Above can be done as-

Spam[2] = ‘hello’

This will replace the ‘6’ in the list stored in variable ‘spam’ with the string ‘hello’.

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 value of spam[int(int('3' \* 2) / 11)] will be the string ‘d’.

As the ‘3’\*2 will give us string ‘33’ which is converted into integer using int. Thus 33/11 will give 3. Hence spam[3] is ‘d’

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

🡪 The value of spam[-1] is ‘d’

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

🡪 The value of spam[:2] is [‘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 value of bacon.index('cat') is 1. As index returns the index of 1st occurrence of the value (here in this case the string ‘cat’).

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

🡪 bacon.append(99) will append the integer value 99 at the end of the list.

bacon list will now appear as-

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

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

🡪 bacon.remove('cat') will remove the 1st occurrence of the value (here in this case the string ‘cat’) from the list.

bacon list will now appear as-

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

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

🡪 For list concatenation we use + operator and for list replication we use \* operator.

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

🡪 The list method append adds the given item at the end of the list or at -1 index position while method insert adds the given item at the specific index position in the list provided by user or in short at any position in the list.

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

🡪 The two methods for removing items from a list are-

* remove () - removes the 1st occurrence of the given item
* pop () - removes the item at given index position or by default at last index (-1) position

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

🡪 List and string values are identical in many ways as both of them can be-

* Concatenated or replicated
* Iterated over as both are iterable
* len () can be used over both
* Have indexes and slices

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

🡪 Tuples are immutable, items/values in tuples cannot be changed whereas list are mutable, items in list can be added, removed or changed. Tuples are written using parenthesis ‘( )’ while lists use square brackets ‘[ ]’

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

🡪 Tuple which contains only the integer 42 can be written as-

(42,)

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

🡪 The simplest way to get list value’s tuple form or vice versa is type casting using the functions – tuple () and list () respectively.

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

🡪 Variables which contain list values usually have the reference to the list values and not the lists themselves.

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

🡪 The copy.copy() function will do a shallow copy of a list, while the copy.deepcopy() function will do a deep copy of a list. That is, only copy.deepcopy() will duplicate any lists inside the list.