1. What exactly is []?

Ans: [] represents a list.

A list is a ordered and mutable data. It can store any number of data of various datatype.

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.)

Ans : spam.insert(2,'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)]?

Ans: ('3' \* 2)🡪 int(‘33’)🡪33/11🡪int(3.0)🡪spam[3]🡪 ‘d’

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

And: ‘d’

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

Ans: [‘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')?

Ans: 1, as it returns the 1st occurrence of cat

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

Ans: Appends the 99 at the end of the list. [3.14, 'cat', 11, 'cat', True, 99]

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

Ans: removes the 1st occurrence of the ‘cat’ [3.14, 11, 'cat', True, 99]

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

Ans: concatenation is to merge 2 lists one after the other, however both the list can contain any data/element .

When replicating the list, it is the same list that gets merges at the end thus the list values remain same.

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

Ans: append() is used to add the object at the end of the list

Insert(index, item): insert the item before the index position

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

Ans: pop(index): is used to remove the element at mentioned index position and returns the deleted element value. The last value of the element will be deleted by default

Remove(element): remove the 1st occurrence of the element from the list.

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

Ans: we can sequence between both list value and the string, thus we can find item at every index position for both list and string ie lst[1] and str[1]🡪 will return the element at position2

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

|  |  |
| --- | --- |
| List | tuple |
| are mutable | are immutable |
| we can insert/update/delete elements thus mutable | once created cannot be altered |
| [1,2,’rimi’,2.0] | (1,2,’rimi’,2.0)/ 1,2,’rimi’,2.0 |
| created as list() | created as tuple() |

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

Ans: tup=42,

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

Ans: we can use tuple(lst) to get the tuple version of a list

we can use list(tuple) to get the list version of a tuple

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

Ans : Variables will contain references of the list values

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

Ans: copy.copy(): this create a shallow copy. It creates a copy of the object but the reference stays the same.

Thus when any new elements gets added to the old copy then the new copy remains unchanged.

However if there is any change in the existing element , as the reference is been shared, the updates will be applied to the new copy as well

Copy.deepcopy(): creates a deep copy, it a new object is created and the new object also creates a copy of the element that the old object contains.

Thus any change in the old copy, (addition of new element/ updating of existing element) will have no impact on the new copy

Both will be independent copies.