1. What exactly is []?

[] is used in declaring a list variable. This square bracket also used in data structures to get index number.

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

spam.insert(2,”hello”)

Print(spam)

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)]?

‘3’ \*2 = 33 /11 = 3 🡺 spam[3]

Value is ‘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.

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

Invalid Syntax as comma is not before 11 and ‘True’

After correcting commas and applying below code

bacon=[3.14, 'cat,', 11, 'cat,', True]

Bacon.index(‘cat,’) = 1

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

bacon=[3.14, 'cat,', 11, 'cat,', True]

bacon.append(99)

[3.14, 'cat,', 11, 'cat,', True, 99] 🡪 99 will append in list at the END.

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

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

Remove will remove first occurrence of the element from List.

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

List concatenation operator is +

For ex: List\_1 = list\_2 + list\_3

Replication operator is \*

List\_1 = list\_2 \* 5

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

Append always add an element at the end of list while Insert add element on the provided position.

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

Pop: removes element from end of the list if index is provided then from index

Remove: remove provided value from the list.

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

List can have any data types inside while string can only have str/characters.

They are identical while iterating in a loop.

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

List is mutable data structure and can have lot of operations while tuples are immutable data structure and cannot be changed after creation on the same variable.

List has variable length, tuple has fixed length

List = [], tuple = ()

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

T1 = (42,)

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

Use list(tuple\_1) list function will be used to type cast

Use tuple function to type cast list for ex: tuple(list\_1)

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

This variable which contain list will be always List.

For ex: a = [5, 2, ‘axxx’, 9, 0] here a is variable and it contains list values.

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

A shallow copy means constructing a new collection object and then populating it with references to the child objects found in the original. The copying process does not recurse and therefore won’t create copies of the child objects themselves. In case of shallow copy, a reference of object is copied in other object. It means that **any changes** made to a copy of object **do reflect** in the original object. In python, this is implemented using “**copy()**” function.

Deep copy is a process in which the copying process occurs recursively. It means first constructing a new collection object and then recursively populating it with copies of the child objects found in the original. In case of deep copy, a copy of object is copied in other object. It means that **any changes** made to a copy of object **do not reflect** in the original object. In python, this is implemented using “**deepcopy()**” function.