***1.What exactly is []?***

“[]” is an empty list.

Ex: A=[],it implies that A is a list with no values 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.)***

spam[2]= “hello”, since index starts from 0 in the list.

***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)]?***

(int('3' \* 2) / 11)=3 i.e. spam[3]= ‘d’

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

spam[-1]= ‘d’ (the first value in the reversed order)

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

spam[:2]= ‘a’,‘b’ (values at indices 0 & 1 will be printed)

***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')?***

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,99]

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

bacon= [3.14, 11, 'cat’, True,99] (It will remove the first value only)

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

Concatenation operator is ‘+’ and operator for replication is ‘\*’.

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

append() add the values at the end as it is, while insert() add the values at the assigned indices. Insert() takes 2 arguments to add any values to the list.

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

Del

remove()

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

Both list values and string values are assigned with indices starting from zero.

As the list performs loop, slicing, length, concatation etc. , the same applies to string values as well.

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

List values are written within big brackets [], while tuples are in small brackets ()

list is mutable i.e. values can be changed,added or removed, while the same action is not performed with tuple, so tuple is immutable.

Tuples are used for password protection, but not the list.

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

(42,) : with trailing comma which indicates it to be a tuple

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

tuple() : list to tuple

list() : tuple to list

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

They contain reference to the list values.

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

copy.copy() will do a shallow copy of a list to perform the further action.

In the case of shallow copy, a reference of an object is copied into another object. It means that any changes made to a copy of an object do reflect in the original object.

copy.deepcopy() will do a deep copy of a list. i.e. it will duplicate any lists inside the list.

It means first constructing a new collection object and then recursively populating it with copies of the child objects found in the original.

In the case of deep copy, a copy of the object is copied into another object. It means that any changes made to a copy of the object do not reflect in the original object.

copy.copy() don’t allow change in ID reference, but copy.deepcopy() allows change in ID referecce.