1. What exactly is []?

Ans) In Python, a list is created by placing elements inside square brackets [], separated by commas. If we give want to declare an empty list then we use – a=[].

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)The third value has index of 2. For assigning the third value as hello we perform –

spam[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) The value of spam[int(int('3' \* 2) / 11)] is d

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

Ans) The value of spam[-1] is d

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

Ans) 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')?

Ans) The value of bacon.index('cat') is 1

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

Ans) After append statement the value of bacon is [3.14, 'cat', 11, 'cat', True, 99]

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

Ans) After executing bacon.remove(‘cat’) once the list will be [3.14, 11, 'cat', True, 99]

After executing bacon.remove(‘cat’) twice the list will be [3.14, 11, True, 99]

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

The operator for list concatenation is +, while the operator for replication is \*.

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

The difference between append() and insert() is that insert function allows us to add a specific element at a specified index of the list unlike append() where we can add the element only at end of the list.

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

remove() - It helps to remove the very first given element matching from the list.

pop() - The pop() method removes an element from the list based on the index given.

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

Ans) Lists and strings are ordered collections of characters i.e both are sequential except that the elements of a list can have any type and for any one list, the items can be of different types.

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

Ans) The difference between the tuples and lists is that while the tuples are immutable objects the lists are mutable.

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

Ans) The tuple can be declared as a=(42,)

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

Ans) To get list value’s tuple form we keep lists inside a tuple

Eg – a = ( [‘a’,’b’] , [‘c’,’d’] )

To get tuple value’s list form we keep lists inside a tuple

Eg – a = [ (‘a’,’b’) , (‘c’,’d’) ]

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

Ans) Variables will contain references to list values rather than list values themselves. But for strings and integer values, variables simply contain the string or integer value.

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

Ans) copy() create reference to original object. If you change copied object - you change the original object. .deepcopy() creates new object and does real copying of original object to new one. Changing new deepcopied object doesn't affect original object.