1. What exactly is []?

Ans 1 : [] is a Python empty list. List is similar to array concepts in other programming languages.

List is a collection of data, These data can be of any type.

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 2:

a.insert(2 , "hello").

Output: [2, 4, 'hello', 6, 8, 10]

Insert function will insert the given value to the mentioned index 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)]?

Ans 3: ‘d’ is the output.

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

Ans 4: ‘d’

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

Ans 5:

‘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 6: If “[3.14, 'cat' , 11, 'cat' , True]” is the list then the below output will get, Else it will show error.

1

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

Ans 7: If “[3.14, 'cat' , 11, 'cat' , True]” is the list then the below output will get, Else it will show error.

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

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

Ans 8: [3.14, 11, 'cat', True, 99]

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

Ans 9 : append() – used for the concatenation and copy() for replication.

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

Ans 10: append() concatenate the value in the function parenthesis to the end of the list.

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

bacon.append('cat') will make changes as below

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

Insert() will insert a given value to the index(position) passed in the function

For eg: bacon = [3.14, 'cat', 11, 'cat', True, 99, 'cat']

**bacon.insert(3,"hello")**  will give the below output

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

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

Ans 11: pop() and remove()

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

Ans 12: Both string and list are sequential collection. Strings are sequential collection of characters , but lists can be sequential collection of different types. Using index values we can acces a particular character( in string) and different values (in lists).

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

Ans 13: Tuples are immutable(we cannot change\modify) its value(s). But lists are mutable.

Tuples have a fixed length as we cannot change its value, But lists length can be varied according to the changes\modification made on the lists.

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

Ans 14: eg: tuple\_1 = (42,)

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

Ans 15:

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

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

Ans 17: copy.copy() is known as shallow copy. Shallow copy creates a new object of the copied one. Then it keeps references into the object which contains in the entity from which it copied.

Eg: a = [[1,2,3] , [4,5,6]]

b = copy.copy(a). Here the id of b will be different from a. But the id of b[0] will be same as of a[0].

But in copy.deepcopy()

b=copy.deepcopy(a). Here the id of b will be different from a, also the id of b[0] and a[0] also different.