1. What exactly is []?

[] is a list, a mutable collection of values,but not necessarily of the same 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.)

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)]?

‘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')?

1

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

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

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

[3.14, 11, 'cat', True]

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()?

While append() will add values only to the end of a list, insert() can add them anywhere in the list.

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

1. del[a : b] :- This method deletes all the elements in range starting from index ‘a’ till ‘b’ mentioned in arguments.

2. pop() :- This method deletes the element at the position mentioned in its arguments.

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

The similarity between Lists and Strings values in Python is that both are sequences.

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

Lists are mutable and Tuples are immutable. List Consumes more memory as compare to tuples. In list many built-in methods are available.tuple does not have many built-in methods.

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

(42,)

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

 The tuple() and list() functions, respectively are used to convert a list to tuple and vice versa

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

They contain references to list values.

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

copy.copy(x) -Return a shallow copy of x.

copy.deepcopy(x[, memo]) -Return a deep copy of x.

* A shallow copy constructs a new compound object and then (to the extent possible) inserts references into it to the objects found in the original.
* A deep copy constructs a new compound object and then recursively inserts copies into it of the objects found in the original.

.deepcopy() copies original object recursively while .copy() create a reference object to first-level data of original object.