1. What exactly is []?

In python [] is an indexing operator used to denote the index of an object. It can be used to initialize a list or to extract the value at a particular index of a subscriptable object

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[3]=’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?

+ for concatenation and \* for repetition

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

append() adds the value to the end of the list while insert() is used to add the value at a specified index

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

pop() and remove()

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

List and string types both have indexed values that can be called on using the [] operator

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

Tuples are immutable i.e. any change operation like append, pop, insert or assignment cannot be performed on a tuple.

Lists are mutable i.e. their values can be modified after creation

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?

We can typecast a list into a tuple using the tuple() method.

Similarly, list() can be used to typecast a tuple into a list

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

Such variables contain references to the list values

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

copy.copy()called shallow copy creates a new collection and populates it with references to the original collection. This means any changes to the copy reflect in the original as well

copy.deepcopy() called deep copy creates a new collection and populates it with copies of the original creating new values. This means any changes to the copy do not reflect in the original.