1. What exactly is []?

They are symbols for declaring lists in python such as a = [] and its shows and empty list or

a = [1,2,3], also you can use them for indicating an item of list such as a[1]

1. 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.)

Smap[2] = ‘hello’

Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.

1. What is the value of spam[int(int('3' \* 2) / 11)]? ‘d’
2. What is the value of spam[-1]? ‘d’
3. 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, 99]

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

For concatenation is + and for replication is \*

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

append lets us to add an item at the end of the list but insert lets us to add on the specific index of the list

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

remove() , pop()

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

List is mutable but string is not immutable, also elements of list can be different type while string can be only characters that are string type

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

List is mutable, more memory consumption , but tuple is not mutable , iteration will be faster and access to elements is faster

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

A = (42,)

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

a = [(1,2) , (3,5)] # list of tuples

b = ([1,2,4], [1,8]) # tuple of lists

or if you mean convert the answer will be

a = [1,2,3,4] , b = (1,2,4 , 8)

a = tuple(a) , b = list(b)

16. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain? They contain references to the list value

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

Deep copy is a recursive copy it means copy variable and every nested value inside but copy is one level deep and only copy variable, for example if we have a list inside our list by copy nested copy will change if we change it in copy one