1. What exactly is []?

* [ ] is a empty list, like 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.)

* Spam = [2,4,6,8,10]

Spam[2]=’Hello’

print(Spam)

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)]?

* Spam = [‘a’,’b’,’c’,’d’]

print(Spam[int(int(‘3’\*2)/11)]) # Spam[3]

Output:**‘d’**

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

* Output **: ‘d’**

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

* Output: **[‘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')?

* Output: **1**

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

* Output: [3.14, 'cat,' 11, 'cat,' True,99]

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

* Output: [3.14,' 11, 'cat,' True,99] # removes the first occurrence of value

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

* Lst1 = [1,2],lst2=[3,4]
* ( \* ) is list replication operator ( + ) is list concatination operator
* List concatenation is used to concatenate two or more lists (lst1+lst2)
* List replication refers to replication of entire list by specific number of times(lst1\*3)

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

* appends() appends the values at the end of the list
* insert() inserts the values at a specified index

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

* The 2 methods of removing items from list is pop() and remove()

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

* Both lists and strings can be passed to len()
* Have indexing and slicing
* Can be used in for loops
* Can be concatenated or replicated
* Can be used with the **in and not in** operators

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

* Lists : are mutable - they can have values added, removed, or changed. lists are declared using the square brackets, [ ‘and’ ]  
  Tuples : are immutable; they cannot be changed at all. Tuples are declared/written using parentheses, ( ‘and’ )

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

* new = (42,)

new

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

* l1 = [8,3]

l = tuple(l1) # type conversion of list

l

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()?

* The copy.copy() function will do a shallow copy of a list,  
  The copy.deepcopy() function will do a deep copy of a list.