1. What exactly is []?

**Ans:** [] is use to declare the list and here its representing the empty list.

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:** spam[2] = ‘hello’ as because list index start from 0

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:** ‘d’

**int(‘3’ \*2) = 33**

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

**Ans:** ‘d’

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

**Ans: [‘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:** 1

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

**Ans:** append add the value at the last of list

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

**Ans:**  this will remove the first occur cat  
[3.14, 11, 'cat', True]

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

**Ans:** List concatenation(+) use to concatenate the list and list repliction(\*) is use to replicate the list

a=[1,2,3]

b=[4,5,6]

a+b= [1,2,3,4,5,6]

a\*3= [1,2,3,1,2,3,1,2,3]

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

**Ans:** append() is used to add element at the last of the list

Insert() is use to add value at any index of the list

And also the append method is only limited to list.

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

**Ans:** pop() and remove() are the two method to remove item from the list

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

**Ans:** both list and string are the ordered collection but string can hold only character and list can hold any type of data

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

**Ans:** List are mutable, and tuple are immutable

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

**Ans:** a=(42,)

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

**Ans:** list to tuple= tuple()

Tuple to list = list()

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

**Ans:** reference to list values

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

**Ans:** copy.copy() return the shallow copy and copy.deepcopy() return the deep copy

In shallow copy both original and copy file point to same memory location

In deep copy both original and copy file point to different memory location and both file has same content