1. What exactly is []?

Ans: It is an empty list or used to declare a 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"   # in this case 6 from list is overwritten by the value "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)]?

Ans: 'd'

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

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

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

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

Ans: List Concatenation is performed using + operator to merge multiple lists.

List Replication is performed using * operator to create duplicate of same elements in list.

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

Ans: When append() is used the  element is added at the end of the list whereas when insert() is used we can specify the index where element is to be added.

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

Ans: remove() and pop() are the two methods.

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

Ans: Both are sequence of elements. However list can have values with different datatypes and strings can only have character elements.

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

Ans: Tuples are immutable (no elements can be manipulated) while lists are mutable.

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: Consider a =[1,2,3,4] and b=(1,2,3,4). Here a is list and b is tuple to obtain tuple form of list we have method **tuple(a)** . Similarly to obtain list form tuple we have method **list(b).**

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

Ans: Variables contain only references to list not list itself.

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

Ans: copy.copy() : It is Shallow copy, which creates the new object but does not recurse and perform copies of of child objects instead uses the references. Hence if changes are made in child objects it affects both objects indicating shallow copy.

copy.deepcopy() : It is deep copy, unlike shallow copy the new object is created further if found objects inside objects (child object) the copy of child object is created instead using references.