1. What exactly is []?

**Ans: [] is used to declare a list in python**

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’**

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]

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

**Ans : List concatenation operator : +**

**list replication operators : \***

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

**Ans: append() is used adding new elements at the end of the list**

**list.append(element)**

**Insert() can be used to adding an element in desired position. Insert() takes two arguments the element and the position**

**list.insert(element,position)**

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

**Ans: pop() remove an item by index**

**list.pop(position)**

**remove() the first occurrence of item in a list**

**list.remove(element)**

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

**Ans : The similarity between Lists and Strings in Python is that both are sequences.**

**We can perform same kind of task in both list and String Only difference is String is immutable and List is mutable**

**So we can make changes to the list but we cannot make changes to a String**

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

|  |  |
| --- | --- |
| List | Tuple |
| Lists are mutable | Tuples are immutable |
| Iteration is time consuming | Iterations is comparatively faster |
| Lists are better for performing operations like insertion and deletion | Tuples are better for accessing elements |
| Lists consume more memory | Tuples consume less memory as compared to list since it is static |
| Lists have several built in methods | Tuples does not have built in methods |

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

**Ans a =(42,) -> we add a comma if the tuple contains single value**

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

Ans: We can covert a list to tuple and vice versa

t= (1.2.3.4)

l=list(t) -> l will be a list

x=tuple(l) -> t will the tuple

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

**Ans: Variables that "contain" list values, actually contain the reference to the list values.**

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

**Ans: copy() creates reference of the original object. Any changes made to the copied object changes the original object. It allows faster execution of the program.**

**While deepcopy() creates new object and copies the original object to new one. Any changes made to the copied object doesn't affect the original object . DeepCopy makes the execution of program slow as it copies for each object that is being called.**