1. What exactly is []?

**Solution1**:[] is empty list. Also [] is used to access an item in 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.)

**Solution2**: spam=[2,4,6,8,10]

spam.insert(3,'hello')

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)]?

**Solution3:** 'd'

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

**Solution4:** 'd'

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

**Solution5:** ['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')?

**Solution6:** 1

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

**Solution7:** [3.14, 'cat', 11, 'cat', True, 99]

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

**Solution8**: [3.14, 11, 'cat', True]

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

**Solution9:** list concatenation operator is + and list replication operator is \*

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

**Solution10:** append() can be used only for adding new element at the end of list ,while insert() can be used to add element at any position which can modify

already occupied position.

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

**Solution11:** items can be removed by pop() and remove() function.

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

**Solution12:** Lists are similar to strings, which are ordered collection of characters except that the elements of list can have any type.

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

**Solution13:**

|  |  |
| --- | --- |
| List | Tuple |
| Lists are mutable. | Tuples are immutable. |
| Lists have several built-in methods | Tuple does not have many built-in methods. |
| Implication of iterations is time-consuming. | The implication of iteration is comparatively Faster. |

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

**Solution14:** t=(42,)

type(t)

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

**Solution15:** list ‘l’can convert to tuple by using tuple(l).

e.g. l=[1,2,3]

t=tuple(l)

t

(1, 2, 3)

similarly, tuple ’t’ can be converted into list ’k’ by using list(k).

e.g. t=(1,2,3)

k=list(t)

k

[1, 2, 3]

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

**Solution16:** other different data types like string,int,float etc.

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

**Solution17:** copy and deepcopy creates a new copy of variable. So now changes to original variable will not be reflected to the copy variable and vice versa. However copy(shallow copy) ,don’t creates a copy of nested objects , instead it just copies the reference of nested objects. Deepcopy copies all the nested objects recursively.