**1. What exactly is []?**

[] or square brackets are used for various purposes in python.

It can be used for creating an empty list.

When used with some numbers inside of it, it can be used for indexing.

**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]  
# Method 1   
spam.insert(2, 'hello')  
  
spam = [2, 4, 6, 8, 10]  
# Method 2  
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)]?**

‘d’

**Explanation**:

int(‘3’\*2) = 33

33/11 = 3

Value at index 3 is ‘d’

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

‘d’

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

['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')?**

1

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

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

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

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

It removes the first instance of ‘cat’

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

+ is the list concatenation operator.

\* is the list replication operator.

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

append() will add an element to the end of the list.

insert() take an index as well as an argument. So it can add the element anywhere in the list.

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

pop() – takes the index of element to be removed as argument

remove() – takes the item to be removed as argument and removes the first matching instance.

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

* Both list and string can be indexed and sliced the same way.
* Both behaves the same way with concatenation operator + and replication operator \*
* Both can be used with len() function.

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

|  |  |
| --- | --- |
| **list** | **tuple** |
| Defined inside [] | Defined inside () |
| Lists are mutable. i.e, the individual elements can be removed, added and updated. | Tuples are immutable. i.e, the individual elements can’t be changed. |

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

(42,)

If we just use (42) the type will be int.

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

tuple() function can be used to get a list value's tuple form.

list() function can be used to get a tuple value's list form

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

They contain reference to list values.

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

copy() returns a shallow copy. i.e, it contains reference to the original. So changes made to the copy of the object affect the original as well.

deepcopy() returns a deep copy. i.e, it creates a duplicate object and changes made to copy object does not affect the original.