1. What exactly is []?

**Answer:**

It is an 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.)

**Answer:**

spam = [2,4,6,8,10]

print(spam[3])

spam[3] = 'hello'

print(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)]?

**Answer:**

‘d’

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

**Answer:**

‘d’

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

**Answer:**

['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')?

**Answer:**

1

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

**Answer:**

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

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

**Answer:**

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

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

**Answer:**

The operator for list concatenation is +, and the operator for replication is \*.

lst1 = [1, 2, 3]

lst2 = [4, 5, 6]

lst3 = lst1 + lst2

print(lst3)

print(lst2 \*3)

The output will be:

[1, 2, 3, 4, 5, 6]

[4, 5, 6, 4, 5, 6, 4, 5, 6]

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

**Answer:**

append() method adds an element at the end of the list whereas insert() method inserts an element at the specified location/index in the list.

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

**Answer:**

remove() method is used to remove first item from a list.

pop() method is used to remove item from a given index position in a list.

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

**Answer:**

The identical feature between List values and string values is that both are sequences.

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

**Answer:**

|  |  |
| --- | --- |
| **Tuple** | **List** |
| Tuple is defined with round brackets(()). | List is defined with square brackets |
| Tuples are immutable | Lists are mutable |

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

**Answer:**

(42,)

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

**Answer:**

We can achieve the targets using casing of data types – tuple() and list() respectively.

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

**Answer:**

Variables contains references to the list values.

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

**Answer:**

copy() create reference to original object. If you make changes to the copied (new) object, it will make changes to the original object also.

Deepcopy() generates a new object and performs a true copy of the original object onto the new object. New deepcopied object changes have no impact on the original object.