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

[ ] is a empty list, like a =[ ]

**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] **=** '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’

**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]

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

Eg:

l1=[1,2]

l2 = [3,4]

|  |  |
| --- | --- |
| **Concatenation** | **Replication** |
| l1+l2 | l1\*3 |
| [1,2,3,4] | [1,2,1,2,1,2] |

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

append() inserts the specified object at the end of the list

insert() inserts the objects at the specified index

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

remove() and pop() are used to remove items from the list

remove() removes specified item from the list, while the pop() removes the last item on the list.

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

The list values and the string values are identical die to the following reasons:

1. Both lists and strings can be passed to len()
2. Have indexes and slices
3. Can be used in for loops
4. Can be concatenated or replicated
5. Can be used with the in and not in operators

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

Tuples are immutable, hence the items in tuples cannot be changed, modified, appended or removed, while items in list can be changed, removed, append and modified as it is mutable.

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

a = (42)

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

**# list values to tuple**

l1 **=** [1,2,3,4,5]

l **=** tuple(l1)

**# tuple values to list**

n1 **=** (1,2,3,4)

n **=** list(t1)

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

References to the list values

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

The copy.copy() function will do a shallow copy of a list,  
The copy.deepcopy() function will do a deep copy of a list. Note, only copy.deepcopy() can only duplicate any lists inside the list