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

[] denotes an empty list.

1. **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] replaces value 6 with ‘hello’ and the output will be [2, 4, ‘hello’, 8, 10]

**Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.**

1. **What is the value of spam[int(int('3' \* 2) / 11)]?**

Output will ‘d’.

Explanation: spam[(int(int(‘3’\*2)/11)]

= spam[int(int(‘33’)/11)]

=spam[int(33/11)]

=spam[int(3.0)]

=spam[3] = ‘d’

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

Spam[-1] returns last element which is ‘d’

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

[‘a’, ’b’]. spam[:2] returns elements from 0th index and 1st index values

**Let's pretend bacon has the list [3.14, 'cat,' 11, 'cat,' True] for the next three questions.**

1. **What is the value of bacon.index('cat')?**

The index of ‘cat’ is 1.

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

Output: [3.14, 'cat,' 11, 'cat,' True, 99].

Append command adds the value at the end of the list

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

Output: [3.14, 11, 'cat,' True]

Remove command removes the first occurrence.

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

List concatenation – ‘+’

List replication – ­\*

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

append() adds values only at the end of the list, whereas insert() inserts values anywhere within the list.

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

del and remove are the two methods for removing items in a list.

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

len(),indexing, slicing, concatenation, replication, looping, in and not in operators are common for list as well as for strings

1. **What is the difference between tuples and lists?**

|  |  |
| --- | --- |
| **Lists** | **Tuples** |
| Lists are mutable | Tuples are immutable |
| append(), remove(), insert() etc., commands can be used | No changes can be made in a tuple |
| Denoted by [] | Denoted by () |

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

(42,) is the way of denoting a single value as a tuple.

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

a=[] 🡪tuple(a) will convert list ‘a’ into a tuple.

b=() 🡪list(b) will convert tuple ‘b’ into a list.

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

They contain references of the list values.

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

* copy.copy() will give us shallow copy. A shallow copy creates a new object which stores the reference of the original elements.
* copy.deepcopy() will do a deep copy of a list. The deep copy creates independent copy of original list