1. What exactly is []?

[] refers to 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.insert(2,’hello’)

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)]?

spam[int(int('3' \* 2) / 11)] = ‘d’

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

Spam[-1] = ‘d’

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

Spam[:2] = [‘a’,’b’]

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')?

bacon.index('cat') = 1

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

99 is added at the end. Bacon list will be [3.14, 'cat', 11, 'cat', True, 99]

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

bacon.remove('cat') removes the first occurrence of cat. Bacon list will become [3.14, 11, 'cat', True, 99]

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

List concatenation operator is + and .extend().

List replication operator is \*.

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

Append() method adds new element at the end of the list.

Insert() method allows adding new element anywhere within in the list with the help of index value that is passed to the method.

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

Del() and remove() are the two methods that can remove items from a list.

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

List is a collection of values whereas string is a collection of characters.

Elements in both list and string can be accessed using index number. Index number starts with 0.

Both list and string can be iterated in the same manner.

Both list and string can be concatenated using + operator and replicated using \* operator.

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

Tuples are immutable collection of values which means once a tuple is created new elements cannot be added, existing elements cannot be deleted or modified. Tuples are written within ‘()’.

List are mutable collection of values which means new values can be added, existing elements can be modified or deleted. Lists are writing within ‘[]’

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

(42,)

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

List from tuple:

tpl = (42,)

lst = list(tpl)

tuple from list:

lst=[42]

tpl=tuple(lst)

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

They contain the reference of the list values.

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

Copy.copy() is just a shallow copy in which the new list is refers to the address of the elements that the first list points to. Any modification done to the one of the list is also seen on the copied list since it points to the same elements

Copy.deepcopy() is a deep copy in which new list object is created. This means that any modification to the original list will not have any change to the copied list.