1. What exactly is []?

ANS First, they are used to define "list literals," allowing you to declare a list and its contents in your program. Index brackets are also used to write expressions that evaluate to a single item within a list, or a single character in a string.

2. In a list of values stored in a variable called spam, how would you assign the value &#39;hello&#39; as the

third value? (Assume [2, 4, 6, 8, 10] are in spam.)

Let&#39;s pretend the spam includes the list [&#39;a&#39;, &#39;b&#39;, &#39;c&#39;, &#39;d&#39;] for the next three queries.

1. What is the value of spam[int(int(&#39;3&#39; \* 2) / 11)]?

ANS What does spam[int(int('3' \* 2) // 11)] evaluate to? 'd' (Note that '3' \* 2 is the string '33', which is passed to int() before being divided by 11. This eventually evaluates to 3.

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

ANS  (Negative indexes count from the end.)

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

Let&#39;s pretend bacon has the list [3.14, &#39;cat,&#39; 11, &#39;cat,&#39; True] for the next three questions.

6. What is the value of bacon.index(&#39;cat&#39;)?

ANS What does spam[int(int('3' \* 2) // 11)] evaluate to? 'd' (Note that '3' \* 2 is the string '33', which is passed to int() before being divided by 11. This eventually evaluates to 3. Expressions can be used wherever values are used.)

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

ANS Also, tuples are written using parentheses, ( and ), while lists use the square brackets, [ and ]. How do you type the tuple value that has just the integer value 42 in it? (42,) (The trailing comma is mandatory.)

8. How does bacon.remove(&#39;cat&#39;) change the look of the list in bacon?

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

ANS As with strings, we can use the operators + and \* to concatenate and replicate lists. When + appears between two lists, the expression will be evaluated as a new list that contains the elements from both lists.

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

ANS append() adds an item to the end of a list, whereas . insert() inserts and item in a specified position in the list. As you saw in the previous section, . append() will add the item you pass as the argument to the function always to the end of the list

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

ANS **There are three ways in which you can Remove elements from List:**

* Using the remove() method.
* Using the list object's pop() method.
* Using the del operator.

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

ANS Both have a length. The length of a sequence is the number of elements it contains. The length of a string is the number of characters it contains, and the length of a list is the number of items it contains. Both can be indexed.

13. What&#39;s the difference between tuples and lists?

ANS 13. The primary difference between tuples and lists is that tuples are immutable as opposed to lists which are mutable. Therefore, it is possible to change a list but not a tuple.

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

ANS Tuples are immutable; they cannot be changed at all. Also, tuples are written using parentheses, ( and ), while lists use the square brackets, [ and ]. How do you type the tuple value that has just the integer value 42 in it? (42,) (The trailing comma is mandatory.)

15. How do you get a list value&#39;s tuple form? How do you get a tuple value&#39;s list form?

ANS Method 1: Using the tuple() built-in functionIn the tuple() function, an iterator can be passed which we then convert to a tuple object. If we need to convert a list to a tuple, we have to pass this whole list to the tuple() function as an argument, and in return, it will give the tuple data type.

16. Variables that &quot;contain&quot; list values are not necessarily lists themselves. Instead, what do they

contain?

ANS Variables will contain references to list values rather than list values themselves. But for strings and integer values, variables simply contain the string or integer value. Python uses references whenever variables must store values of mutable data types, such as lists or dictionaries.

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

ANS **copy — Shallow and deep copy operations**

1. A shallow copy constructs a new compound object and then (to the extent possible) inserts references into it to the objects found in the original.
2. A deep copy constructs a new compound object and then, recursively, inserts copies into it of the objects found in the original.

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