

1. What exactly is []?
It represents 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.)
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)]?
 $\text{int('3' * 2) / 11} = 33 / 11 = 3$
so spam[3] = d
4. What is the value of spam[-1]?
Spam[-1] = d
5. 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.

6. What is the value of bacon.index('cat')?
The value is 1. There are two cats in the list but it gives the index of first occurrence only.
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, 99]
9. What are the list concatenation and list replication operators?
+ is list concatenation operator and * is list replication operator.
10. What is difference between the list methods append() and insert()?
Append() joins the element at the end of the list and insert() adds the element anywhere in the list.
11. What are the two methods for removing items from a list?
Using del statement and remove() function we can remove items from the list.
12. Describe how list values and string values are identical.
List and string both can be used for indexing and slicing in a similar way. They are iterable by using loops. Len() function can be used on both to find length.
13. What's the difference between tuples and lists?
Once assigned the elements in the list can be removed or added, but in tuples we can't do that. Lists are mutable where as tuples are immutable.
14. How do you type a tuple value that only contains the integer 42?
By placing ' ,' after the 42. I.e. tup = (42,)

15. How do you get a list value's tuple form? How do you get a tuple value's list form?
The `tuple()` and `list()` functions, are used to convert a list to tuple and tuple to list.
16. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain?
They contain references to list values.
17. How do you distinguish between `copy.copy()` and `copy.deepcopy()`?
`copy.deepcopy()` will duplicate any lists inside the list where `copy.copy()` just copies the list.