1.What exactly is []?

* It means the list has no value.
* Empty list representation.

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?

* list [3.14, 'cat,' 11, 'cat,' True, 99]

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

* list [3.14, 11, 'cat,' True, 99]

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

* the + operator concatenates lists. Similarly, the \* operator repeats the items in a list a given number of times.

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

* **with append, you just add a new entry at the end of the list**. With insert(position, new\_entry) you can create a new entry exactly in the position you want.

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

* remove an element from a given list. The methods are remove(), pop() and clear()
* you can also use a del keyword to remove items from a list.

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

* Lists are similar to strings, which are ordered collections of characters, except that the elements of a list can have any type and for any one list, the items can be of different types.

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

|  |  |
| --- | --- |
| **List** | **Tuple** |
| It is mutable | It is immutable |
| The implication of iterations is time-consuming in the list. | Implications of iterations are much faster in tuples. |
| Operations like insertion and deletion are better performed. | Elements can be accessed better. |
| Consumes more memory. | Consumes less memory. |
| Many built-in methods are available. | Does not have many built-in methods. |
| Unexpected errors and changes can easily occur in lists. | Unexpected errors and changes rarely occur in tuples. |

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?

* Using double indexing
* tuple() and list() functions

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

* 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()?

* 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.
* A *deep copy* constructs a new compound object and then, recursively, inserts *copies* into it of the objects found in the original