1. What exactly is []?

Answer: [] are used to define list data type which can contain any data enclosed within [].

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.)

Answer: 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)]?

Answer: ‘d’

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

Answer: ‘d’

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

Answer: ‘a’ , ‘b’

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

There is error in this list declaration, lets fix this first: bacon=[3.14, 'cat', 11, 'cat', True]

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

Answer: 1

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

Answer: [3.14, 'cat', 11, 'cat', True, 99]

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

Answer: [3.14, 11, 'cat', True, 99]

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

Answer: list concatenation operators: +

list replication operators: \*

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

Answer: append() : This method will add the item passed at the end of the list

insert():This method will add the item passed at the position passed while calling this method in list

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

Answer: pop(), remove()

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

Answer: List are collection of characters same as string. List items are iterable and same as string characters. List and string both has length.

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

Answer: tuples are enclosed between () and lists are denoted within []

Tuples are immutable whereas lists are mutable.

List is dynamic in nature and tuple is static.

List consumes more time and memory whereas tuples are faster and consume less memory.

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

Answer: (42,)

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

Answer: Below methods can be used to get list value's tuple form:

list() and tuple() methods

list comprehension and tuple() method

list and zip() method

list and iter() method

Similarly we can get tuple value’s list form:

list() and tuple() methods

tuple() and zip() method

tuple and map() and lambda method

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

Answer: Variables contain references to the list values.

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

Answer: copy.copy() is known as shallow copy and if the copied object is changed then original one also changes. Here it points to the same copy of objects of the class.

Copy.deepcopy() is exact copy where changing the copied object one will not change the original one. Here it creates a copy of each objects inside of the class.