1. What exactly is []?

Ans:- An empty list is defined as the list with no elements or items on the list. To define an empty list in Python, there are two ways to do this, and they are done either by using square bracket [] or by using a list constructor such as 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.)

Ans:- spam[2] = ‘hello’

o/p:- [2, 4,’hello’, 6, 8, 10]

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)]?

Ans:- ‘d’

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

Ans:- ‘d’

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

Ans:- [‘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')?

And:- 1

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

Ans:- [3.14, 'cat', 11, 'cat', True,99]

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

Ans:- [3.14, 11, 'cat', True,99]

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

Ans:- The operator for list concatenation is +, while the operator for replication is \*

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

Ans:- Append adds to the end of the list, while insert adds in front of a specified index. Insert is slower when compared to append.

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

Ans:- The pop() method removes an element from the list based on the index given. The clear() method will remove all the elements present in the list

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

Ans:- The similarity between Lists and Strings in Python is that both are sequences. The differences between them are that firstly, Lists are mutable but Strings are immutable. Secondly, elements of a list can be of different types whereas a String only contains characters that are all of String type.

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

Ans:- 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. The contents of a tuple cannot change once they have been created in Python due to the immutability of tuples.

Tuples are more memory efficient than the lists. When it comes to the time efficiency, tuples have a slight advantage over the lists especially when we consider lookup value. If you have data that shouldn't change, you should choose tuple data type over lists

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

Ans:- (42,) (The trailing comma is mandatory.)

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

Ans:- The tuple() and list() functions, respectively

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

Ans:- They contain references to list values.

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

Ans:- The copy.copy() function will do a shallow copy of a list, while the copy.deepcopy() function will do a deep copy of a list. That is, only copy.deepcopy() will duplicate any lists inside the list.