**1. What exactly is []?**

[] is basically an empty list, and we can store n number of variables, dtypes in it.

**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)]?**basically int(‘3’ \* 2) = 33, and 33/11 = 3

spam[3] = ‘d’

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

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?**

Bacon will append one letter

bacon = [3.14, 'cat', 11, 'cat',True, 99]

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

It will remove that value cat from the list

bacon = [3.14,11,True]

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

List concatenation operator helps you to stack or combine two list

For example :

a = [1,2,3]

b = [8,9]

c = a + b

answer will be c = [1,2,3,8,9]

However list replication means repeating that list with n number of times

Operator is (\*)

Example:

a = [1,2,3]

c = a \*2

answer will be c = [1,2,3,1,2,3]

**10. What is difference between the list methods append() and insert()?**append() add values at the end of the lint and can take only one argument

Whereas insert() takes two argument and add that element on the specific index

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

pop(), remove()

pop() remove element at specific index if no index given then remove the last item from the list

however, remove() deletes the first occurance of that letter from the list

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

String and list have many things in common like, we can use **indexing & slicing** in both of those,

Both can be **iterated over loop**, we can concatenate both with “+” and repeat their elements using “\*”

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

Tuples are immutable whereas list are mutable, which means you can change and modify the elements in the list but not in tuple

**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?**

We can use “tuple()” function to convert list into tuple, however to convert tuple into list we can use “list()” function

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

These variables are generally the references to the list value

For example: if we assign the list to another variable:

L1 = [1,2,3]

L2 = L1

Then changes made on list list will be same as changes made in l2.

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

Copy.copy() is basically a shallow copy where old elements are basically referenced to the new object, changes made on new object will be reflected on old object and vise versa

However copy.deepcopy() is a Deep copy where old elements are copied to the new object, changes made on old object will not be reflected on the new object