1. What exactly is []?

**Ans:** Empty list/ Array

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.)

**Ans:**

Value can be added by following code

spam.insert(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')?

**Ans:**

It will bring the first encountered index value of given element. That is in the above case it returns 1

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

**Ans:** [3.14,’cat’,11,’cat,True,99]

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

**Ans:**

It remove first time encountered stated value in the above case final output will be as follow

[3.14,11,’cat’,True,99]

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

**Ans:**

**Concatenation:** This is the operator which is used to add two or more list to form whole new list is called list concatenation.

Eg: a = [1,2,3] , b = [‘hello’,’bro’]

c = a+b =[1,2,3,’hello’,’bro’]

**List replication:** This is function which is used to repeat the respective list those many times

Eg: a = [1,2,3]

print(a\*2) ---> final output is [1,2,3,1,2,3]

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

**Ans:**

append() --> This is the function which insert elements at the end of the list

Eg: a = [1,2,3]

a.append(4) --> final output is [1,2,3,4]

Insert --> This is the function which inserts element at desired index in the list.

Eg: a = [1,2,3]

a.insert(2,4) --> final output is [1,2,4,3]

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

**Ans:**

Remove: It is method in which element can be removed. This method remove the element happens in first instance.

Synrax: list\_name.remove(element)

pop: This method helps to remove element and also stores in some varibale. This method also remove element happend in first instance.

Syntax: variable = list\_name.pop(element)

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

**Ans:**

List and string values are identical following ways:

1. Both can be concatinated.

2. All the item in both can accessed by index

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

**Ans:** Both tuple and list are data types which hold different kind of data in it. The main difference comes in mutability that tuple can’t be altered on the other hand list can manipultaed. List were denoted by [] and tuple is denoted by ()

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

**Ans:** (42)

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

**Ans:** To convert list to tuple syntax will be follow

variable = tuple(list\_name)

To convert tuple to list syntax will be follow

variable = list(tuple\_name)

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

**Ans:** A list can hold all kind of data type that python has example tuple, int, boolean.. etc

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

**Ans:**

**copy.copy():** It create shallow copy of the item which refer to same object in same memory location. If there is any chnage in main copy it will effect the item in shallow copy too.

**Copy.deepcopy():** It create deep copy which reflects same objects in different memory location. Change in any main copy doesn’t impact the deepcopy and vice versa. It totally works as independent element.