1. What exactly is []?

**Ans-** The empty list value, which is a list value that contains no items.

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.)

Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.

**Ans**-

spam=[2,4,6,8,10]

spam[2]= 'hello'

print(spam)

output- [2, 4, 'hello', 8, 10]

3. What is the value of spam[int(int('3' \* 2) / 11)]?

**Ans-**

spam=['a','b','c','d']

spam[int(int('3' \* 2) / 11)]

output-'d'

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

**Ans-**

spam=['a','b','c','d']

spam[-1]

output- 'd'

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

**Ans-**

spam=['a','b','c','d']

spam[:2]

output - ['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-**

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

bacon.index('cat')

output- 1

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

**Ans-**

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

bacon.append(99)

print(bacon)

output- [3.14, 'cat', 11, 'cat', True, 99]

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

**Ans-**

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

bacon.remove('cat')

print(bacon)

output- [3.14, 11, 'cat', True]

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

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

Examples of list concatenation and list replication

letters = ['A','B','C']

numbers = [1,2,3,4,5]

print(letters + numbers)

print(letters \* 4)

output-

['A', 'B', 'C', 1, 2, 3, 4, 5]

['A', 'B', 'C', 'A', 'B', 'C', 'A', 'B', 'C', 'A', 'B', 'C']

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

**Ans-**

**append()-** It adds an element at the end of the list.

**Insert**()- This method can be used to insert a value at any desired position.

**Append**-

list1=[1,2,3,4,5]

list1.append(6)

print(list1)

output- [1, 2, 3, 4, 5, 6]

**Insert**-

list1=['apple','orange','banana','kiwi','berry','grapes']

list1.insert(4,'strawberry')

print(list1)

output-['apple', 'orange', 'banana', 'kiwi', 'strawberry', 'berry', 'grapes']

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

Ans- There are 2 methods that is used to remove items from the list’

Pop() - pop() method removes the last element and removes the item at the specified index.

Remove() - remove() method removes the first item from the list which is equal to the passed value.

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

Ans- Both lists and strings can be passed to len(), have indexes and slices, be used in for loops, be concatenated or replicated, and be used with the in and not in operators.

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

Ans-

**List-**

* [Lists](https://www.geeksforgeeks.org/python-lists/) are [mutable](https://www.geeksforgeeks.org/mutable-vs-immutable-objects-in-python/)(Lists can be changed)
* Lists are enclosed within the [ ] square bracket
* Lists consumes more memory
* Lists can have values added, removed, or changed

**Tuple-**

* [Tuples](https://www.geeksforgeeks.org/python-tuples/) are immutable (Tuples can’t be changed)
* Tuples are enclosed within the ( ) parathesis
* Tuples consumes less memory
* Tuples can’t be changed

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

Ans-

value=(42)

print(value)

output- 42

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

Ans -

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

Ans - They contain references to list values.

17. 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.