**1. What exactly is []?**Ans:- [] is an empty list in Python.

**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:- You can assign the value ‘hello’ as the third value in a list called spam by using the index. In Python, indexing starts from 0, so the third value is at index 2. You can do this with spam[2] = 'hello'

**Let's pretend the spam includes the list ['a', 'b', 'c', 'd'] for the next three queries.**Ans:- The expression spam[int(int('3' \* 2) / 11)] evaluates to 'd’

**3. What is the value of spam[int(int('3' \* 2) / 11)]?**Ans:- The expression spam[int(int('3' \* 2) / 11)] evaluates to 'd’

**4. What is the value of spam[-1]?**Ans:- The expression spam[int(int('3' \* 2) / 11)] evaluates to 'd’

**5. What is the value of spam[:2]?**Ans:- spam[-1] gives the last item in the list spam. So, it will return 'd’.

**Let's pretend bacon has the list [3.14, 'cat,' 11, 'cat,' True] for the next three questions.**Ans:- spam[:2] returns the first two items of the list spam. So, it will return [‘a’, ‘b’]

**6. What is the value of bacon.index('cat')?**Ans:- The method bacon.index('cat') returns the index of the first occurrence of ‘cat’ in the list bacon. So, it will return 1.

**7. How does bacon.append(99) change the look of the list value in bacon?**Ans:- The method bacon.append(99) adds the number 99 at the end of the list bacon. So, the new list will look like [3.14, ‘cat’, 11, ‘cat’, True, 99]

**8. How does bacon.remove('cat') change the look of the list in bacon?**Ans:- The method bacon.remove('cat') removes the first occurrence of ‘cat’ from the list bacon. So, the new list will look like [3.14, 11, ‘cat’, True]6.

**9. What are the list concatenation and list replication operators?**Ans:- The list concatenation operator is +, and the list replication operator is \*.

**10. What is difference between the list methods append() and insert()?**Ans:- The difference between the methods append() and insert() is that append() adds an element to the end of a list while insert() can add an element at any specific position in a list.

**11. What are the two methods for removing items from a list?**Ans:- The two methods for removing items from a list are remove(), which removes the first occurrence of a value, and pop(), which removes an element at a specific index.

**12. Describe how list values and string values are identical.**Ans:- List values and string values are similar in that they are both sequences that can be indexed and sliced. They can also be used with operators like + and \*.

**13. What's the difference between tuples and lists?**Ans:- The main difference between tuples and lists is that tuples are immutable (they cannot be changed after they are created) while lists are mutable.

**14. How do you type a tuple value that only contains the integer 42?**Ans:- A tuple value that only contains the integer 42 can be typed as (42,).

**15. How do you get a list value's tuple form? How do you get a tuple value's list form?**Ans:- You can get a list value’s tuple form using the tuple() function, and you can get a tuple value’s list form using the list() function.

**16. Variables that "contain" list values are not necessarily lists themselves. Instead, what do they contain?**Ans:- Variables that “contain” list values actually contain references to list values.

**17. How do you distinguish between copy.copy() and copy.deepcopy()?**Ans:- The copy.copy() function performs a shallow copy of a list, while copy.deepcopy() performs a deep copy. In a shallow copy, elements like lists within the original list are not copied but referenced. If you change these elements in one list, it changes in both lists. In a deep copy, all elements including lists within the original list are copied as new objects.