**PYTHON ASSIGNMENT - 4**

1.What exactly is []?

ANSWER:

Empty list

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.)

ANSWER:

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)]?

ANSWER:

d

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

ANSWER:

d

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

ANSWER:

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')?

ANSWER:

1

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

ANSWER:

[3.14, 'cat', 11, 'cat', True, 99].

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

ANSWER:

[3.14, 11, 'cat', True]

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

ANSWER:

The list concatenation operator is +, which combines two lists into one list. The list replication operator is \*, which replicates a list a certain number of times.

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

ANSWER:

The append() method adds an item to the end of a list, while the insert() method inserts an item at a specified position in the list.

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

ANSWER:

remove(), pop()

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

ANSWER:

Both list values and string values are sequential, meaning they consist of an ordered collection of items. They can be indexed and sliced, and various methods can be applied to manipulate them.

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

ANSWER:

Tuples cannot be changed after creation, while lists are mutable, meaning they can be modified after creation. Lists are created using square brackets [], while tuples are created using parentheses ().

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?

ANSWER:

To get a list value's tuple form, you can use the tuple() function. To get a tuple value's list form, you can use the list() function.

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

ANSWER:

Variables that "contain" list values are references to the list objects. In Python, variables store references to objects rather than the objects themselves.

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

ANSWER:

copy.copy() creates a shallow copy of a list, meaning it duplicates the top-level structure of the list but not the nested objects within it. copy.deepcopy() creates a deep copy of a list, meaning it duplicates both the top-level structure and all the nested objects within it, recursively.