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Full Stack Data Science- iNeuron 2021
Python Basic Assignment: Assignment 4

Question 1.
What exactly is []?
Answer 1:
[] is the empty list value, which is a list value that contains no items.

Question 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.

Answer 2:
spam[2] = 'hello' (The third value in a list is at index 2 because the first index is 0.)

Question 3:
What is the value of spam[int(int('3' * 2) / 11)]?
Answer 3:
'd' (Note that '3' * 2 is the string '33', which is passed to int() before being divided by 11. This eventually evaluates to 3. Expressions can be used wherever values are used.)

Question 4:
What is the value of spam[-1]?
Answer 4:
'd' (Negative indexes count from the end.)

Question 5:
What is the value of spam[:2]?
Answer 5:
['a', 'b']

Question 6: (Let's pretend bacon has the list [3.14, 'cat,' 11, 'cat,' True] for the next three questions.)

What is the value of bacon.index('cat')?
Answer 6:
1

Question 7:
How does bacon.append(99) change the look of the list value in bacon?
Answer 7:
[3.14, 'cat', 11, 'cat', True, 99]

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Question 8:
How does bacon.remove('cat') change the look of the list in bacon?
Answer 8:
[3.14, 11, 'cat', True]

Question 9:
What are the list concatenation and list replication operators?
Answer 9:
The operator for list concatenation is + (the use of "+" **operator** can easily add the whole of one **list** behind the other **list** and hence perform the **concatenation**), while the operator for replication is *. (This is the same as for strings.)

Question 10:
What is difference between the list methods append() and insert()?
Answer 10:
append() will add values only to the end of a list and insert() can add them anywhere in the list.

Question 11:
What are the two methods for removing items from a list?
Answer 11:
The del statement and the remove() list method are two ways to remove values from a list.

Question 12:
Describe how list values and string values are identical.
Answer 12:
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.

Question 13:
What's the difference between tuples and lists?
Answer 13:
Lists are mutable, it can have values added, removed, or changed. Tuples are immutable, they cannot be changed at all. tuples are written using parentheses, ( ), while lists use the square brackets [ ].

Question 14:
How do you type a tuple value that only contains the integer 42?
Answer 14:
(42,)

Question 15:

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

Answer 15:

The tuple() and list() functions, respectively

Question 16:

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

Answer 16:

Contain references to list values.

Question 17:

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

Answer 17:

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.