PYTHON: ASSIGNMENT - 4

1. What exactly is []?
SOLUTION- It is an 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.)
SOLUTION- 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)]?
SOLUTION- 'd' will be the result.

4. What is the value of spam[-1]?
SOLUTION- 'd' will be the result.

5. What is the value of spam[:2]?
SOLUTION- ['a', 'b'] will be the result.

Let's pretend bacon has the list [3.14, 'cat,' 11, 'cat,' True] for the next three questions.
Will solve the below questions considering that there is a typing error 'cat,' which should be 'cat',

6. What is the value of bacon.index('cat')?
SOLUTION- 1

7. How does bacon.append(99) change the look of the list value in bacon?
SOLUTION- The new list will be: [3.14, 'cat', 11, 'cat', True, 99]

8. How does bacon.remove('cat') change the look of the list in bacon?
SOLUTION- It will remove the 1st cat value in the list. The new list will be: [3.14, 11, 'cat', True,99]

9. What are the list concatenation and list replication operators?
SOLUTION- The list concatenation will put all the elements of different lists into a single list.
Example:
l1 = [3,5,6]
l2 = [6,32,7]
l1 + l2
Output- [3,5,6,6,32,7]
The list replication is the method to clone a list it can be done by multiple ways. We can use the copy() function as well. Example:
l3 = copy.copy(l1)

10. What is difference between the list methods append() and insert()?
SOLUTION- append() just add the new value at last index of the list. While using insert we can add the new value at any index of the list. Example:
a = [1,2,4]
a.append(10)
Output list will be [1,2,4,10]
a.insert(2,5) #here it takes two argument 1st is for index and 2nd is for the value we want to insert.

Output list will be [1,2,5,4]

11. What are the two methods for removing items from a list?
SOLUTION- we can use remove() and pop() methods for that.

12. Describe how list values and string values are identical.
SOLUTION- Both have the lengths and both have indexes.

13. What's the difference between tuples and lists?
SOLUTION- Python Lists are mutable while tuples are immutable. Iterations are time consuming in Lists and faster in Tuples. Lists consume more memory and tuples consumes less memory.

14. How do you type a tuple value that only contains the integer 42?
SOLUTION- t1 = (42);

15. How do you get a list value's tuple form? How do you get a tuple value's list form?
SOLUTION- We can get list values in a tuples form by using tuple(). And list() for another one.

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

17. How do you distinguish between copy.copy() and copy.deepcopy()?
SOLUTION- The copy() returns the shallow copy of a variable. And copy.deepcopy() return a deep copy of x.