**PYTHON BASIC ASSIGNMENT – Assignment\_4**

**1. What exactly is []?**

[] is a depiction for a 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.)**

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

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)]? : ‘**d’

**4. What is the value of spam[-1]? :** ‘d’

**5. What is the value of spam[:2]? : ‘c’**

**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')? :**  1

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

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

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

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

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

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

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

The difference between append() and insert() is that insert function allows us to add a specific element at a specified index of the list unlike append() where we can add the element only at end of the list.

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

The remove() function helps to remove the very first given element matching from the list. The pop() method removes an element from the list based on the index given. The clear() method will remove all the elements present in the list.

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

The similarity between Lists and Strings in Python is that both are sequences and both are iterables.

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

The tuples are immutable objects the lists are mutable. This means that tuples cannot be changed while the lists can be modified.

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

**a = (42)**

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

Using type casting we can obtain both the scenarios.

1. a = tuple([1,2,3,4,5]) ------- will result in a tuple
2. a =list ((1,2,3,4,5)) ------- will result in a list

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

Lists can contain varieties of datatypes like int, str, list, tuple ,set, dict, bool , complex, etc.

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

copy.copy() returns a shallow copy .

A shallow copy constructs a new compound object and then (to the extent possible) inserts references into it to the objects found in the original.

copy.deepcopy() returns a deep copy .

A deep copy constructs a new compound object and then, recursively, inserts copies into it of the objects found in the original.