**Assignment\_4**

1. What exactly is []?

**Answer:** Index brackets ([]) in Python are used to define "list literals," allowing to declare a list and its contents in the program. Index brackets are also used to write expressions that evaluate to a single item within a list, or a single character in a string.

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.insert(3, ‘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:** It will append number 99 at the end of the existing list of bacon.

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

**Answer:** It will remove first occurrence of the string ‘cat’ from the list bacon.

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

**Answer:** ‘+’ is the list concatenation operator and ‘\*’ is the list replication operator.

Ex: a = [‘1’, ‘2’, ‘3’]

b = [‘a’, ‘b’, ‘c’]

a + b >> [‘1’ , ‘2’, ‘3’, ‘a’, ‘b’, ‘c’]

a \*2 >> [‘1’, ‘2’,’3’, ‘1’, ‘2’, ‘3’]

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

**Answer:** List method append() object to the end of the list whereas List method insert() inserts object before the index provided value in the parenthesis.

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

**Answer:** clear() , remove(), pop()

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

**Answer:** The values that make up a list are called its elements. Lists are similar to strings, which are ordered collections of characters, except that the elements of a list can have any type and for any one list, the items can be of different types.

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

**Answer:** The key difference between the tuples and lists is that while 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?

**Answer:** a = (42,)

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

**Answer:** list value's tuple form : by using built in function “tuple”

Ex: spam = [‘a’, ‘b’, ‘c’]

Spam1 = tuple(spam)

tuple value's list form : by using built in function “list”

spam1 = (‘a’, ‘b’, ‘c’)

Ex: spam = list(spam1)

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

**Answer:** Variables contain references to list values rather than list values themselves.

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

**Answer:** copy() create reference to original object. If you change copied object - you change the original object. . deepcopy() creates new object and does real copying of original object to new one.