**Yashwant Desai – Assignment 4**

1. What exactly is []?

Answer: [] is empty list value that contains no items.

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'

Updated list result is [2, 4, 'hello', 8, 10]

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: The result of above query is 'd'

Calculation: '3' \* 2 is the string '33' int('33') int has converted 33 string into 33 number 33/11 = 3

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

Answer: The result of above query is 'd'

Negative indexes count from the end

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

Answer: The result of above query is ['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: An index of ‘cat’ is 1

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

Answer: The result of above query is [3.14, 'cat', 11, 'cat', True, 99]

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

Answer: The result of above query is [3.14, 11, 'cat', True, 99]

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

Answer: The operator for list concatenation is +, and the operator for replication is \*

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

Answer: append() will add values only to the end of a list and insert() can add them anywhere in the list.

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

Answer: The two methods for removing items from a list are del statement and remove() list method

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

Answer: Both lists and strings can be passed to len() have indexes and slices can be used in for loops, concatenate, replicate and can be used with the in and not in operators.

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

Answer: Lists are mutable they can have values added, removed, or changed. Tuples are immutable they cannot be changed at all. tuples are written using parentheses ( a ) while lists use the square bracket [ a ].

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

Answer: (42,) The trailing comma is required

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

Answer: The tuple() and list() functions respectively

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

Answer: They contain references to list values

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

Answer: The copy.copy() function will do a shallow copy of a list and the copy.deepcopy() function will do a deep copy of a list. That is only copy.deepcopy() will duplicate any lists inside the list.

Regards,

Yashwant