**ASSIGNMENT 4**

1. What exactly is []?
2. In Python [] represents an empty list.
3. 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.)
4. spam[2] = ‘hello’

(Let’s pretend the spam includes the list [‘a’, ’b’, ’c’, ’d’] for the next three queries.)

1. What is the value of spam[int(int(‘3’ \* 2) / 11)]?

A) ‘d’

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

A) ‘d’

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

A) [‘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’)?

A) 1

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

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

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

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

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

A) The “+” operator is for list concatenation. The ”\*” operator is for list replication.

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

A) The method append() adds an element to the end of the list while the method insert() can add elements anywhere in the list.

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

A) We can remove items from list by using the remove() function and by using the pop() function.

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

A) We can use slice operation on both list and string values as they both have indexes, can use len() method on both because of which they can be used in the for loop.

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

A) The main difference between tuples and lists are that tuples are immutable containers while lists are mutable meaning their values can be changed after declaration.

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?

A) To get a list value’s tuple form we use the method tuple(). And for the tuple value’s list form we can use the list() method.

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

contain?

A) The variable can contain a reference to the list.

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

A) copy.copy() generates a reference to the original object which is called a shallow copy meaning changes to this copy can affect the original whereas copy.deepcopy() will generate a deep copy as a new object and add values of the original recursively and making changes to this copy won’t affect the original.