Assignment-4

1.What exactly is []?

Solution:

**The square brackets are denoted by [ ]. The empty list value (ie., which 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.)

Solution:

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

**spam.insert (2 ,'hello')**

**print (spam)**

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: **prints d**

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

Solution: **prints d**

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

Solution**: output [‘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’)?

Solution: **output will be 1**

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

Solution:

**The append function in list will add value at last. The change will be look as bacon=[3.14, ‘cat’ , 11 , ‘cat’ , True ,99]**

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

Solution:

**It removes specified value from list bacon, the presence of first cat will be removed. The output will be of bacon= [3.14, 11 , ‘cat’ , True]**

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

Solution**:**

**The operators + and \* to concatenate and replicate lists. When + appears between two lists, the expression will be evaluated as a new list that contains the elements from both lists. When \* appears that contains repetition of same list at given number.**

**Ex: L=[1,2,3]**

**P=[4,5,6]**

**Print(L+P) # gives [1,2,3,4,5,6]**

**Print(L\*2) #gives [1,2,3,1,2,3]**

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

Solution:

**The difference between the two methods is that ,**

**append() adds an item to the end of a list, whereas**

**insert() , inserts an item in a specified position in the list.**

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

Solution:

* **Using the remove() method.**
* **Using the list object's pop() method.**

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

Solution:

1. **Both lists and strings can be passed to len()**
2. **Have indexes and slices**
3. **Can be used in for loops**
4. **Can be concatenated or replicated**
5. **Can be used with the in and not in operators**
6. **both are sequences, ordered collection characters.**

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

Solution:

**The key difference between tuples and lists is that while tuples are immutable objects, lists are mutable. This means tuples cannot be changed while lists can be modified.**

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

Solution:

**The tuple values should be written within parenthesis ie., (42).**

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

Solution:

**To get list value’s in tuple form;**

**List = [1, 2, 3]**

**Tuple = tuple(List)**

**print(Tuple)**

**To get tuple value’s in list form;**

**Tuple = (1, 2, 3)**

**List = list(Tuple)**

**print(List)**

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

Solution:

**Variables will contain references to list values rather than list values themselves. But for strings and integer values, variables simply contain the string or integer value.**

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

Solution:

**The copy.copy() function will do a shallow copy of a list,  
The copy.deepcopy() function will do a deep copy of a list. only copy.deepcopy() will duplicate any lists inside the list.**