**Rishabh Kant Jha’s assignment - 4**

1. What exactly is []?

**Empty 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.insert(2,”hello”)**

**>> print(spam)**

**>> [ 2 , 4 , ‘hello’ , 6 , 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)]?

**d**

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

**d**

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

**[ 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')?

**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?

**LIST CONCATENATION WAYS :**

**List\_1 = [1,2]**

**List\_2 = [“chrisom”]**

**List\_3 = List\_1 + List\_2**

**Or**

**test\_list1=[1,2,3]**

**test\_list2=[“chrisom”]**

**for i in test\_list2 :**

**test\_list1.append(i)**

**LIST REPLICATION OPERATORS**

**List\_1 = [1,2,3,4]**

**List\_2 = []**

**List\_2.extend(List\_1)**

**Or**

**List\_2 = list(List\_1)**

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

**Append() : adds at the end of the list.**

**Insert() : inserts the value at the desired position in the list.**

**List\_1.insert(0,”HOLA”) # will insert the value HOLA at the beginning of list LIST\_1 and shift the other values right.**

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

**Pop()**

**1. Spam.pop()# will remove the element from the rear end of the list**

**Pop()**

**2. Spam.pop(3) # will remove the element from 4th position of the list**

**3. Spam.remove(value) # value should be as it is in the list, apply ‘ ‘ for a string**

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

**Both have a sequence of characters and both can have appended values in then.**

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

**Tuples are immutable,**

**Lists are mutable.**

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

**E = (42)**

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

**V = [12,32]**

**V = tuple(V)**

**Print(V) #prints V as a tuple**

**>>(12,32)**

**V = list(V)**

**Print(V) #prints V as a list**

**>>[12,32]**

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

**E = [(1,2,3),(5,”Amoeba”),(Telapth\_1)]**

**The above will contain the lists of multiple types but since they are all tuples which contain homogeneous values only and the values must be of similar type.**

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

**copy.copy() : copies the value and passes the reference hence it becomes a shallow copy and any change made in them will not be reflected in another**

**copy.deepcopy() : will copy the value in another but changes made in one will not be reflected in another as the reference is not passed.**