A1. Tuple is a collection which is Ordered, Indexed, Immutable and can contain duplicate items

A2. Tuples don’t have methods like list because they are immutable whereas list can be modified

Count(): Returns the number of times a specified value occurs in tuple

Index():Searches the tuple for a specified value and returns the position where it was found first.

A3. Sets does not allow duplication in python

test\_list = [10, 55, 23, 66, 23, 55, 66, 10]

print ("Original list with Duplicates : " + str(test\_list))

test\_list = list(set(test\_list))

print ("The list without duplicates : "+ str(test\_list))

A4. Set.

update() function adds all the missing elements to the set on which it is called or it adds distinct elements sent from one or more iterables whereas,

 Set.union() function creates a new set

Examples:

x = {"a", "b", "c"}

y = {"d", "e", "f"}

z = x.union(y)

print(z)

Returns:

{'e', 'f', 'c', 'd', 'a', 'b'}

x = {1, 2, 3}

y = {2, 3, 5, 7}

x.update(y)

print("Updated set: ", x)

Returns:

Updated set: {1, 2, 3, 5, 7}

A5. Dictionaries are data structures for storing Key Value pairs.

Its is **unordered** collection. It is mutable as a key -value pair can be added or deleted from it.

Its also called as associative array, as each value is associated to a key.

Example:

dic = {"a" : 1 , "b" : 2}

dic["c"] = 3

dic["b"] = 4

del dic["a"]

print(dic)

Results:

{'b': 4, 'c': 3}

A6. Yes, a nested dictionary can be created

Example as below:

dic={"dic1" :{1:"afsha", 2: "Quamruddin"} ,

"dic2" :{3:"Asna", 4: "Ahad"}}

print(dic,end="\n")

print (dic["dic2"][3])

print(dic['dic1'][2])

Results:

{'dic1': {1: 'afsha', 2: 'Quamruddin'}, 'dic2': {3: 'Asna', 4: 'Ahad'}}

Asna

Quamruddin

A7.

##definign a dictopnary

dict1 = {'language' : 'Python', 'course': 'Data Science Masters'}

##using setdefault() adding one more key with values as list

dict1.setdefault("Topics",['Python', 'Machine Learning', 'Deep Learning'])

dict1

A8

The 3 view objects in dictionary are Keys, Values, Items

Below is the code to display these three view objects in a given dictionary

dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South Africa', 'Sri Lanka', 'New Zealand']}

k=dict1.keys()

v=dict1.values()

i=dict1.items()

print("Keys", k)

print("Values", v)

print("Items",i)