# Q1

A Python tuple has the following characteristics: Data collections in a tuple are arranged and indexed. The tuple's first value will have the index [0], the second value [1], and so on, just as string indices. Values in duplicates can be stored.

Yes. Tuple is immmuatble

In [11]:
```
#Q2
a=(1,2,3)
''' The 2 tuple methods are count and index
Count method gives the number of timme an element is present in the tuple.
Index method gives the index of a particular element '''
#Example
print(a.index(2))
print(a.count(1))
''' As tuple is immutable it only supports these 2 functions'''
```

```
1
1
```

In [14]:
```
#Q3
'''Sets does not suport duplicate elements'''
List=[1, 1, 1, 2, 1, 3, 1, 4, 2, 1, 2, 2, 2, 3, 2, 4, 3, 1, 3, 2, 3, 3, 3, 4, 4, 1,
List2=set(List)
List2
```

Out[14]:
```
{1, 2, 3, 4}
```

In [22]:
```
#Q4
'''update() and set. union() .
The first one adds all missing elements to the set on which it is called and return
'''
a={1,2,3}
b={4,5,6,7}
b.update(a)
print(b)
#####
c={1,2,3,4,6,7,8}
d={335,55,66,90}
c.union(d)
''' As we can see union produces a new set'''
```

```
{1, 2, 3, 4, 5, 6, 7}
```

Out[22]:
```
{1, 2, 3, 4, 6, 7, 8, 55, 66, 90, 335}
```

In [23]:
```
#Q5
'''Dictionaries are used to store data values in key:value pairs.
A dictionary is a collection which is ordered*, changeable and do not allow duplica
As of Python version 3.7, dictionaries are ordered. In Python 3.6 and earlier, dict
```

```
##Example
dict={'name':'Amit','course':'PW Skills Data Science Masters'}
```

In [26]:
```
#Q6
'''Yes. We can make a nested dictionary.'''
dict2={'home':'Odisha','college':'IIT Madras',"dict1":dict}##I've used the just pre
```

In [34]:
```
#Q7
dict1 = {'language' : 'Python', 'course': 'Data Science Masters'}
topics=['Python', 'Machine Learning', 'Deep Learning']
dict1.setdefault('topics',['Python', 'Machine Learning', 'Deep Learning'])
dict1
```

Out[34]:
```
{'language': 'Python',
 'course': 'Data Science Masters',
 'topics': ['Python', 'Machine Learning', 'Deep Learning']}
```

In [35]:
```
#Q8
dict1 = {'Sport': 'Cricket' , 'Teams': ['India', 'Australia', 'England', 'South Afr
'''The 3 view objects are  keys, values and items.'''
k=dict1.keys()
print(k)
v=dict1.values()
print(v)
i=dict1.items()
print(i)
```

```
dict_keys(['Sport', 'Teams'])
dict_values(['Cricket', ['India', 'Australia', 'England', 'South Africa', 'Sri Lan
ka', 'New Zealand']])
dict_items([('Sport', 'Cricket'), ('Teams', ['India', 'Australia', 'England', 'Sou
th Africa', 'Sri Lanka', 'New Zealand'])])
```

In [ ]:
```
THANK YOU!
```