In [1]:

```
print(dir(list))
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__delitem__', '__
dir__', '__doc__', '__eq__', '__format__', '__ge__', '__getattribute__',
'__getitem__', '__gt__', '__hash__', '__iadd__', '__imul__', '__init__',
'__init_subclass__', '__iter__', '__le__', '__len__', '__lt__', '__mul__',
'__ne__', '__new__', '__reduce__', '__reduce_ex__', '__repr__', '__reverse
d__', '__rmul__', '__setattr__', '__setitem__', '__sizeof__', '__str__',
'__subclasshook__', 'append', 'clear', 'copy', 'count', 'extend', 'index',
'insert', 'pop', 'remove', 'reverse', 'sort']
```

In [3]:

```
# count()
list1 = [5,7,3,5,7,6,6,6,8]
list1.count(6)
```

Out[3]:

```
3
```

In [4]:

```
# index()
list1.index(6)
```

Out[4]:

```
5
```

In [5]:

```
# insert()
k = [8,9,5,7,2]
k.insert(1,78)
k
```

Out[5]:

```
[8, 78, 9, 5, 7, 2]
```

In [6]:

```
# pop()
k.pop()
k
```

Out[6]:

```
[8, 78, 9, 5, 7]
```

In [7]:

```
# remove()
k.remove(78)
k
```

Out[7]:

```
[8, 9, 5, 7]
```

In [14]:

```
# copy()
x=[1,2,3,4]
y = x.copy()
print(x,y)
print(x.pop())
print(x,y)
```

```
[1, 2, 3, 4] [1, 2, 3, 4]
4
[1, 2, 3] [1, 2, 3, 4]
```

In [11]:

```
a = [4,8,6,9]
b = a
print(b)
print(b.pop())
print(b)
print(a)
```

```
[4, 8, 6, 9]
9
[4, 8, 6]
[4, 8, 6]
```

In [15]:

```
print(k[::-1])
```

```
[7, 5, 9, 8]
```

In [17]:

```
k1 = [5,6,8,3,7,9]
for i in k1:
    print(i)
```

. . .

In [18]:

```
# i/p: [6,5,9,11,12,8]
# o/p: [5,9,11]
h = [6,5,9,11,12,8]
for j in h:
    if(j%2==1):
        print(j,end=' ')
```

```
5 9 11
```

In [19]:

```
n = [6,5,9,11,12,8]
f = 1
for k in n:
    f = f*k
print(f)
```

```
285120
```

In [ ]:

```
# i/p: [4,6,2,4,7,8,3,6]
# o/p: [4,6,2,7,8,3]
```

In [23]:

```
# Removing duplicates
li1 = [4,6,2,4,7,8,3,6]
li2 = []
for i in li1: # 4 6 2 4
    if i not in li2: # 4 6
        li2.append(i) # 4 6 2 7 8 3
print(li2)
```

```
[4, 6, 2, 7, 8, 3]
```

In [24]:

```
# printing unique values
# i/p: [4,6,2,4,7,8,3,6]
# o/p: [2,7,8,3]
li1 = [4,6,2,4,7,8,3,6]
li2 = []
for i in li1:
    if li1.count(i)==1:
        li2.append(i)
print(li2)
```

```
[2, 7, 8, 3]
```

Tuple()

- It is immutable
- Represented by ()

In [25]:

```
t = ()
print(t,type(t))
```

```
() <class 'tuple'>
```

In [26]:

```
t1 = (5,7,"aa","nn",9.7)
t1
```

Out[26]:

```
(5, 7, 'aa', 'nn', 9.7)
```

In [27]:

```
print(dir(tuple),end=' ')
```

```
['__add__', '__class__', '__contains__', '__delattr__', '__dir__', '__doc_
_', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem__',
'__getnewargs__', '__gt__', '__hash__', '__init__', '__init_subclass__',
'__iter__', '__le__', '__len__', '__lt__', '__mul__', '__ne__', '__new__',
'__reduce__', '__reduce_ex__', '__repr__', '__rmul__', '__setattr__', '__s
izeof__', '__str__', '__subclasshook__', 'count', 'index']
```

In [28]:

```
# count()
t1 = [7,8,7,7,8,9]
t1.count(7)
```

Out[28]:

```
3
```

In [29]:

```
t1.index(8)
```

Out[29]:

```
1
```

In [31]:

```
t1(1)=45
t1
```

```
  File "<ipython-input-31-04392da95bc5>", line 1
    t1(1)=45
          ^
SyntaxError: can't assign to function call
```

Dictionary

- It is a key value pair
- Keys does not allow the duplicates
- Values can allow the duplicates
- It is mutable
- Represented by {key:value}

In [33]:

```
d = {}
print(d,type(d))
```

```
{} <class 'dict'>
```

In [34]:

```
d1 = {6:7,"a":"abc",6.7:"n",2:"b",7.8:23}
d1
```

Out[34]:

```
{6: 7, 'a': 'abc', 6.7: 'n', 2: 'b', 7.8: 23}
```

In [35]:

```
d1["a"]
```

Out[35]:

```
'abc'
```

In [36]:

```
d1[7.8]
```

Out[36]:

```
23
```

In [37]:

```
print(dir(dict),end=' ')
```

```
['__class__', '__contains__', '__delattr__', '__delitem__', '__dir__', '__
doc__', '__eq__', '__format__', '__ge__', '__getattribute__', '__getitem_
_', '__gt__', '__hash__', '__init__', '__init_subclass__', '__iter__', '__
le__', '__len__', '__lt__', '__ne__', '__new__', '__reduce__', '__reduce_e
x__', '__repr__', '__setattr__', '__setitem__', '__sizeof__', '__str__',
'__subclasshook__', 'clear', 'copy', 'fromkeys', 'get', 'items', 'keys',
'pop', 'popitem', 'setdefault', 'update', 'values']
```

In [38]:

```
d1
```

Out[38]:

```
{6: 7, 'a': 'abc', 6.7: 'n', 2: 'b', 7.8: 23}
```

In [39]:

```
# get()
d1.get(2)
```

Out[39]:

```
'b'
```

In [40]:

```
d1.get("a")
```

Out[40]:

```
'abc'
```

In [41]:

```
# keys()
d1.keys()
```

Out[41]:

```
dict_keys([6, 'a', 6.7, 2, 7.8])
```

In [42]:

```
# values()
d1.values()
```

Out[42]:

```
dict_values([7, 'abc', 'n', 'b', 23])
```

In [43]:

```
# items()
d1.items()
```

Out[43]:

```
dict_items([(6, 7), ('a', 'abc'), (6.7, 'n'), (2, 'b'), (7.8, 23)])
```

In [44]:

```
d1["python"]="workshop"
d1
```

Out[44]:

```
{6: 7, 'a': 'abc', 6.7: 'n', 2: 'b', 7.8: 23, 'python': 'workshop'}
```

In [46]:

```
# pop()
d1.pop('a')
d1
```

Out[46]:

```
{6: 7, 6.7: 'n', 2: 'b', 7.8: 23, 'python': 'workshop'}
```

In [47]:

```
# popitem()
d1.popitem()
```

Out[47]:

```
('python', 'workshop')
```

In [48]:

```
d1
```

Out[48]:

```
{6: 7, 6.7: 'n', 2: 'b', 7.8: 23}
```

In [ ]:

```
# update()
d1.update
```

In [ ]:

```

```

In [ ]:

```

```