LIST

A list is a odered collection of item.

In [5]:
```python
l=[]
l
```

Out[5]: []

In [6]:
```python
type(l)
```

Out[6]: list

In [7]:
```python
l1=[10,20,30,40,50,60,20] # it can allow duplicate value
l1
```

Out[7]: [10, 20, 30, 40, 50, 60, 20]

In [8]:
```python
len(l1)
```

Out[8]: 7

List functions

.append()||.copy()||.clear()||.extend()||.remove()||.index()||.count()||.insert()||.pop()||.revers

In [5]:
```python
l=[10,20,30,40,50,10,40,50,20]
l
```

Out[5]: [10, 20, 30, 40, 50, 10, 40, 50, 20]

In [6]:
```python
l.append(40) #Adds an element to the end of the list
l
```

Out[6]: [10, 20, 30, 40, 50, 10, 40, 50, 20, 40]

In [7]:
```python
l.append(90)
l
```

Out[7]: [10, 20, 30, 40, 50, 10, 40, 50, 20, 40, 90]

In [8]:
```python
l2=l.copy() #Returns a duplicate of the list
l2
```

Out[8]: [10, 20, 30, 40, 50, 10, 40, 50, 20, 40, 90]

```
In [9]: l3=l2.copy()
        l3
```

Out[9]: [10, 20, 30, 40, 50, 10, 40, 50, 20, 40, 90]

```
In [10]: l3.clear() #Remove all items from the list and make it empty
         l3
```

Out[10]: []

```
In [11]: l2.clear()
         l2
```

Out[11]: []

```
In [12]: l2=[200,140,30,26,128,190]
         l2
```

Out[12]: [200, 140, 30, 26, 128, 190]

```
In [14]: print(l)
         print(l2)
```

```
[10, 20, 30, 40, 50, 10, 40, 50, 20, 40, 90]
[200, 140, 30, 26, 128, 190]
```

```
In [15]: l.extend(l2) #Adds multiple element from another list to the end
         l
```

Out[15]: [10, 20, 30, 40, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30, 26, 128, 190]

```
In [16]: l.remove(20) #Delete the first occurrence of a specific value
         l
```

Out[16]: [10, 30, 40, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30, 26, 128, 190]

```
In [25]: l2.insert(3,243) #Adds an element at a specific position
         l2
```

Out[25]: [200, 140, 30, 243, 26, 128, 190]

```
In [27]: l2.insert(7,600)
         l2
```

Out[27]: [200, 140, 30, 243, 26, 128, 190, 600]

```
In [28]: l
```

Out[28]: [10, 30, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30, 26, 128, 190]

```
In [29]: l.pop() #Removes and returns an element from a given index bydefault last item
         l
```

Out[29]:   [10, 30, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30, 26, 128]

In [30]:
```python
l.pop()
l
```

Out[30]:   [10, 30, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30, 26]

In [31]:
```python
l.pop()
l
```

Out[31]:   [10, 30, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30]

In [32]:
```python
l2
```

Out[32]:   [200, 140, 30, 243, 26, 128, 190, 600]

In [33]:
```python
l2.reverse() #Reverse the order of the list element
l2
```

Out[33]:   [600, 190, 128, 26, 243, 30, 140, 200]

In [34]:
```python
l2.reverse()
l2
```

Out[34]:   [200, 140, 30, 243, 26, 128, 190, 600]

In [35]:
```python
l
```

Out[35]:   [10, 30, 50, 10, 40, 50, 20, 40, 90, 200, 140, 30]

In [36]:
```python
l.sort() #Arrange the list items in order by default asending order
l
```

Out[36]:   [10, 10, 20, 30, 30, 40, 40, 50, 50, 90, 140, 200]

In [37]:
```python
l2
```

Out[37]:   [200, 140, 30, 243, 26, 128, 190, 600]

In [38]:
```python
l2.sort()
l2
```

Out[38]:   [26, 30, 128, 140, 190, 200, 243, 600]

In [39]:
```python
l2.sort(reverse=True)
l2
```

Out[39]:   [600, 243, 200, 190, 140, 128, 30, 26]

In [40]:
```python
l
```

Out[40]:   [10, 10, 20, 30, 30, 40, 40, 50, 50, 90, 140, 200]

```
In [41]:  l.sort(reverse=True)
          l
```

Out[41]: [200, 140, 90, 50, 50, 40, 40, 30, 30, 20, 10, 10]

join list

```
In [43]:  list1=[10,20,30,40]
          list2=[50,60,70,80,]
          list3=list1+list2
          list3
```

Out[43]: [10, 20, 30, 40, 50, 60, 70, 80]

List membership

```
In [44]:  l
```

Out[44]: [200, 140, 90, 50, 50, 40, 40, 30, 30, 20, 10, 10]

```
In [53]:  70 in l
```

Out[53]: False

```
In [54]:  140 in l
```

Out[54]: True

```
In [51]:  if 80 in l:
              print("80 is present in l")
          else:
              print("80 is not present in l")
```

          80 is not present in l

Loop through a list

```
In [55]:  l
```

Out[55]: [200, 140, 90, 50, 50, 40, 40, 30, 30, 20, 10, 10]

```
In [56]:  for i in l:
              print(i)
```

```
200
140
90
50
50
40
40
30
30
20
10
10
```

In [57]:
```python
for i in enumerate(l):
    print(i)
```

```
(0, 200)
(1, 140)
(2, 90)
(3, 50)
(4, 50)
(5, 40)
(6, 40)
(7, 30)
(8, 30)
(9, 20)
(10, 10)
(11, 10)
```

In [58]:
```python
l2
```

Out[58]: [600, 243, 200, 190, 140, 128, 30, 26]

In [60]:
```python
for i in l2:
    print(i)
```

```
600
243
200
190
140
128
30
26
```

In [61]:
```python
for i in enumerate(l2):
    print(i)
```

```
(0, 600)
(1, 243)
(2, 200)
(3, 190)
(4, 140)
(5, 128)
(6, 30)
(7, 26)
```

In [67]:
```python
my_list=[1,2,3,[3,5,7],[10,20],90,100,40] # nested list
my_list
```

Out[67]: [1, 2, 3, [3, 5, 7], [10, 20], 90, 100, 40]

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: