.List .Tuple .dict .set .range

In [23]:
```
l1=[]
l1
```

Out[23]:
```
[]
```

In [24]:
```
type(l1)
```

Out[24]:
```
list
```

In [25]:
```
len(l1)
```

Out[25]:
```
0
```

In [26]:
```
l1.append(10)
l1
```

Out[26]:
```
[10]
```

In [27]:
```
l1.append(20)
l1.append(30)
l1.append(40)
l1.append(50)
l1
```

Out[27]:
```
[10, 20, 30, 40, 50]
```

In [29]:
```
len(l1)
```

Out[29]:
```
5
```

In [30]:
```
l1.append(60)
l1
```

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

In [31]:
```
l2=[20,5.6,"python",True,5+2j]
l2
```

Out[31]:
```
[20, 5.6, 'python', True, (5+2j)]
```

In [32]:
```
len(l2)
```

Out[32]:
```
5
```

In [33]:
```
type(l2)
```

Out[33]:
```
list
```

In [34]:
```
print(l1)
print(l2)
```

```
[10, 20, 30, 40, 50, 60]
[20, 5.6, 'python', True, (5+2j)]
```

In [35]:
```
print(len(l1))
print(len(l2))
```

```
6
5
```

In [36]:
```
print(id(l1))
print(id(l2))
```

```
2227877230720
2227877407296
```

In [41]:
```
l3=l2.copy()
l3
```

Out[41]: [20, 5.6, 'python', True, (5+2j)]

In [42]:
```
l3==l2
```

Out[42]: True

In [43]:
```
l3==l1
```

Out[43]: False

In [44]:
```
print(l1)
print(l2)
print(l3)
```

```
[10, 20, 30, 40, 50, 60]
[20, 5.6, 'python', True, (5+2j)]
[20, 5.6, 'python', True, (5+2j)]
```

In [45]:
```
l1!=l2
```

Out[45]: True

In [46]:
```
l1
```

Out[46]: [10, 20, 30, 40, 50, 60]

In [47]:
```
l1[:]
```

Out[47]: [10, 20, 30, 40, 50, 60]

In [48]:
```
l1[3]
```

Out[48]: 40

In [49]:
```
l1[-1]
```

Out[49]: 60

In [50]:
```
l1[5]
```

Out[50]: 60

In [54]:
```
l1[0]=100
```

Out[54]: [100, 20, 30, 40, 50, 60]

In [55]:
```
l2.clear()
l2
```

Out[55]: []

In [56]:
```
len(l2)
```

Out[56]: 0

In [57]:
```
del(l2)
```

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

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[58], line 1
----> 1 l2

NameError: name 'l2' is not defined
```

In [59]:
```
l1
```

Out[59]: [100, 20, 30, 40, 50, 60]

In [60]:
```
l1.count(100)
```

Out[60]: 1

In [61]:
```
l1.count(50)
```

Out[61]: 1

In [62]:
```
l1.count(11)
```

Out[62]: 0

In [64]:
```
print(l1)
print(l3)
```

```
[100, 20, 30, 40, 50, 60]
[20, 5.6, 'python', True, (5+2j)]
```

List Membership

In [65]:
```
l1
```

Out[65]: [100, 20, 30, 40, 50, 60]

In [66]:
```
30 in l1
```

Out[66]: True

In [67]:
```
'python' in l1
```

Out[67]: False

In [68]:
```
l2
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[68], line 1
----> 1 l2

NameError: name 'l2' is not defined
```

In [69]:
```
l3
```

Out[69]: [20, 5.6, 'python', True, (5+2j)]

In [70]:
```
l3.extend(l1)
```

In [71]:
```
l3
```

Out[71]: [20, 5.6, 'python', True, (5+2j), 100, 20, 30, 40, 50, 60]

In [72]:
```
l1.extend(l3)
```

In [73]:
```
l1
```

Out[73]:
```
[100,
 20,
 30,
 40,
 50,
 60,
 20,
 5.6,
 'python',
 True,
 (5+2j),
 100,
 20,
 30,
 40,
 50,
 60]
```

In [74]:
```
len(l1)
```

Out[74]: 17

In [76]:
```
l1
```

Out[76]:
```
[100,
 20,
 30,
 40,
 50,
 60,
 20,
 5.6,
 'python',
 True,
 (5+2j),
 100,
 20,
 30,
 40,
 50,
 60]
```

In [77]:
```
l3.index('python')
```

Out[77]: 2

In [78]:
```
l3.index(True)
```

Out[78]: 3

In [79]:
```
l3[3:5]
```

Out[79]: [True, (5+2j)]

In [80]:
```
l3
```

Out[80]: [20, 5.6, 'python', True, (5+2j), 100, 20, 30, 40, 50, 60]

In [81]:
```
l3[4:9]
```

Out[81]: [(5+2j), 100, 20, 30, 40]

In [82]:
```
l3[0:7]
```

Out[82]: [20, 5.6, 'python', True, (5+2j), 100, 20]

In [83]:
```
l3[3:9]
```

Out[83]: [True, (5+2j), 100, 20, 30, 40]

Backward slicing

In [84]:
```
l3
```

Out[84]: [20, 5.6, 'python', True, (5+2j), 100, 20, 30, 40, 50, 60]

In [85]:
```
l3[:]
```

Out[85]: [20, 5.6, 'python', True, (5+2j), 100, 20, 30, 40, 50, 60]

In [86]:
```
l3[-4]
```

Out[86]: 30

In [87]:
```
l3[-3]
```

Out[87]: 40

In [88]:
```
l3[3:-3]
```

Out[88]: [True, (5+2j), 100, 20, 30]

In [89]:
```
l3[5:10]
```

Out[89]: [100, 20, 30, 40, 50]

In [90]:
```
l3.remove(5.6)
```

In [91]:
```
l3
```

Out[91]: [20, 'python', True, (5+2j), 100, 20, 30, 40, 50, 60]

In [ ]: