Python Data Structure

```
In [1]:  l=[]
         l
```

Out[1]: []

```
In [2]:  type(1)
```

Out[2]: int

```
In [3]:  len(l)
```

Out[3]: 0

```
In [4]:  id(l)
```

Out[4]: 1685800361472

```
In [5]:  l.append(10)
```

```
In [6]:  l
```

Out[6]: [10]

```
In [7]:  len(l)
```

Out[7]: 1

```
In [8]:  l.append(20)
         l.append(30)
         l.append(40)
         l.append(50)
```

```
In [9]:  l
```

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

```
In [10]:  len(l)
```

Out[10]: 5

```
In [11]:  l1=l.copy()
          l1
```

Out[11]: [10, 20, 30, 40, 50]

```
In [12]:  l1.append(100)
```

```
In [13]:   l1
```

Out[13]:   [10, 20, 30, 40, 50, 100]

```
In [14]:   l==l1
```

Out[14]:   False

```
In [15]:   l!=l1
```

Out[15]:   True

```
In [16]:   l1
```

Out[16]:   [10, 20, 30, 40, 50, 100]

```
In [17]:   l==l1
```

Out[17]:   False

```
In [18]:   l!=l1
```

Out[18]:   True

```
In [19]:   print(len(l))
           print(len(l1))
```

```
5
6
```

```
In [20]:   print(l)
           print(l1)
```

```
[10, 20, 30, 40, 50]
[10, 20, 30, 40, 50, 100]
```

```
In [21]:   id(l1)
```

Out[21]:   1685778609984

```
In [22]:   l1.clear()
```

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

Out[23]:   []

```
In [24]:   []
```

Out[24]:   []

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

Out[25]:   1685778609984

```
In [26]: l
```

```
Out[26]: [10, 20, 30, 40, 50]
```

```
In [27]: l.append('nit')
         l.append(2.3)
         l.append(1+2j)
         l.append(True)
         l.append([1,2,3])
```

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

```
Out[28]: [10, 20, 30, 40, 50, 'nit', 2.3, (1+2j), True, [1, 2, 3]]
```

```
In [29]: l.append(10)
         l
```

```
Out[29]: [10, 20, 30, 40, 50, 'nit', 2.3, (1+2j), True, [1, 2, 3], 10]
```

```
In [30]: l1=[10,2.3,(1+2j),True,'hello',[1,2,3]]
         l1
```

```
Out[30]: [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

```
In [31]: l1.append(10)
```

```
In [32]: l1
```

```
Out[32]: [10, 2.3, (1+2j), True, 'hello', [1, 2, 3], 10]
```

```
In [33]: l1.count(2.3)
```

```
Out[33]: 1
```

```
In [34]: l1
```

```
Out[34]: [10, 2.3, (1+2j), True, 'hello', [1, 2, 3], 10]
```

```
In [35]: l1.remove(1+2j)
```

```
In [36]: l1
```

```
Out[36]: [10, 2.3, True, 'hello', [1, 2, 3], 10]
```

```
In [37]: l1
```

```
Out[37]: [10, 2.3, True, 'hello', [1, 2, 3], 10]
```

```
In [38]: l1.pop()
```

```
Out[38]: 10
```

```
In [39]:  l1
```

```
Out[39]:  [10, 2.3, True, 'hello', [1, 2, 3]]
```

```
In [40]:  l1.pop()
```

```
Out[40]:  [1, 2, 3]
```

```
In [41]:  l1
```

```
Out[41]:  [10, 2.3, True, 'hello']
```

```
In [42]:  l1.remove(True)
```

```
In [43]:  l1
```

```
Out[43]:  [10, 2.3, 'hello']
```

```
In [44]:  l1
```

```
Out[44]:  [10, 2.3, 'hello']
```

```
In [45]:  l
```

```
Out[45]:  [10, 20, 30, 40, 50, 'nit', 2.3, (1+2j), True, [1, 2, 3], 10]
```

```
In [46]:  l.append('nit')
          l.append(2.3)
          l.append(1+2j)
          l.append(True)
          l.append([1,2,3])
```

```
In [47]:  l
```

```
Out[47]:  [10,
           20,
           30,
           40,
           50,
           'nit',
           2.3,
           (1+2j),
           True,
           [1, 2, 3],
           10,
           'nit',
           2.3,
           (1+2j),
           True,
           [1, 2, 3]]
```

```
In [48]:  l
```

```
Out[48]:  [10,
           20,
           30,
           40,
           50,
           'nit',
           2.3,
           (1+2j),
           True,
           [1, 2, 3],
           10,
           'nit',
           2.3,
           (1+2j),
           True,
           [1, 2, 3]]
```

```
In [49]:  l1=[]
          l1
```

```
Out[49]:  []
```

```
In [50]:  l1=[10,2.3,1+2j,True,'hello',[1,2,3]]
          l1
```

```
Out[50]:  [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

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

```
In [51]:  l1
```

```
Out[51]:  [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

```
In [52]:  l1.count(2.3)
```

```
Out[52]:  1
```

```
In [53]:  l1
```

```
Out[53]:  [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

```
In [ ]:   l1.remove(1+2j)
```

```
In [54]:  l1
```

```
Out[54]:  [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

```
In [55]:  l1
```

```
Out[55]:  [10, 2.3, (1+2j), True, 'hello', [1, 2, 3]]
```

```
In [59]:  l1.remove((1+2j))
```

```
In [60]: l1
```

```
Out[60]: [2.3, True, 'hello', [1, 2, 3]]
```

```
In [61]: l1.pop()
```

```
Out[61]: [1, 2, 3]
```

```
In [62]: l1
```

```
Out[62]: [2.3, True, 'hello']
```

```
In [63]: l
```

```
Out[63]: [10,
          20,
          30,
          40,
          50,
          'nit',
          2.3,
          (1+2j),
          True,
          [1, 2, 3],
          10,
          'nit',
          2.3,
          (1+2j),
          True,
          [1, 2, 3]]
```

```
In [64]: l.pop(2)
```

```
Out[64]: 30
```

```
In [65]: l
```

```
Out[65]: [10,
          20,
          40,
          50,
          'nit',
          2.3,
          (1+2j),
          True,
          [1, 2, 3],
          10,
          'nit',
          2.3,
          (1+2j),
          True,
          [1, 2, 3]]
```

```
In [66]: l.index(2.3)
```

Out[66]:   5

In [ ]:   ```python
l.insert((4,5))
```

In [70]:   ```python
l
```

Out[70]:   ```
[10,
 20,
 40,
 50,
 'nit',
 2.3,
 (1+2j),
 True,
 [1, 2, 3],
 10,
 'nit',
 2.3,
 (1+2j),
 True,
 [1, 2, 3]]
```

In [87]:   ```python
l=['nit',2.3,True,[1,2,3],10,4]
```

In [88]:   ```python
l
```

Out[88]:   ['nit', 2.3, True, [1, 2, 3], 10, 4]

In [73]:   ```python
print(l1)
print(l)
```

```
[2.3, True, 'hello']
[10, 20, 40, 50, 'nit', 2.3, (1+2j), True, [1, 2, 3], 10, 'nit', 2.3, (1+2j), True,
[1, 2, 3]]
```

In [91]:   ```python
l1.extend(l)
```

In [92]:   ```python
l1
```

Out[92]:   [2.3, True, 'hello', 'nit', 2.3, True, [1, 2, 3], 10, 4]

In [93]:   ```python
l
```

Out[93]:   ['nit', 2.3, True, [1, 2, 3], 10, 4]

In [94]:   ```python
l.reverse()
```

In [95]:   ```python
l
```

Out[95]:   [4, 10, [1, 2, 3], True, 2.3, 'nit']

In [78]:   ```python
l5=[300,3,34,9,100]
l5
```

Out[78]: `[300, 3, 34, 9, 100]`

In [85]:
```python
l5.sort()
```

In [86]:
```python
l5
```

Out[86]: `[3, 9, 34, 100, 300]`

In [97]:
```python
l5.sort(reverse=True)
```

In [98]:
```python
l5
```

Out[98]: `[300, 100, 34, 9, 3]`

In [99]:
```python
l5.sort(reverse=True)
l5
```

Out[99]: `[300, 100, 34, 9, 3]`

In [100…
```python
l
```

Out[100… `[4, 10, [1, 2, 3], True, 2.3, 'nit']`

In [101…
```python
l5
```

Out[101… `[300, 100, 34, 9, 3]`

In [102…
```python
l5[0]=3000
l5
```

Out[102… `[3000, 100, 34, 9, 3]`