

List

Tuple

Set

Dict

Range

LIST

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

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

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

```
Out[2]: int
```

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

```
Out[3]: 0
```

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

```
-----  
TypeError                                Traceback (most recent call last)  
Cell In[7], line 1  
----> 1 l.append()  
  
TypeError: list.append() takes exactly one argument (0 given)
```

```
In [8]: l.append(10)
```

```
In [10]: l.remove(78)  
l
```

```
Out[10]: [78, 10]
```

```
In [11]: l.remove(78)
1
```

```
Out[11]: [10]
```

```
In [12]: 1
```

```
Out[12]: [10]
```

```
In [13]: l.append(20)
l.append(30)
l.append(40)
```

```
In [14]: 1
```

```
Out[14]: [10, 20, 30, 40]
```

```
In [15]: len(l)
```

```
Out[15]: 4
```

```
In [16]: l.append(50)
```

```
In [17]: 1
```

```
Out[17]: [10, 20, 30, 40, 50]
```

```
In [19]: l1=[10,3.4,'ten',True,1+2j]
l1
```

```
Out[19]: [10, 3.4, 'ten', True, (1+2j)]
```

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

```
5
5
```

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

```
2255380946048
2255396975424
```

```
In [22]: 12
1
```

```
-----
NameError                                Traceback (most recent call last)
Cell In[22], line 1
----> 1 12
      2 1

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

```
In [23]: l2=l1.copy()  
l2
```

```
Out[23]: [10, 3.4, 'ten', True, (1+2j)]
```

```
In [24]: l1 == l2
```

```
Out[24]: True
```

```
In [25]: l ==l2
```

```
Out[25]: False
```

```
In [26]: print(l)  
print(l1)  
print(l2)
```

```
[10, 20, 30, 40, 50]  
[10, 3.4, 'ten', True, (1+2j)]  
[10, 3.4, 'ten', True, (1+2j)]
```

```
In [27]: l!= l2
```

```
Out[27]: True
```

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

```
Out[28]: [10, 20, 30, 40, 50]
```

```
In [29]: l[:]
```

```
Out[29]: [10, 20, 30, 40, 50]
```

```
In [30]: l[0]
```

```
Out[30]: 10
```

```
In [31]: l[-1]
```

```
Out[31]: 50
```

```
In [32]: l
```

```
Out[32]: [10, 20, 30, 40, 50]
```

```
In [33]: l[4]
```

```
Out[33]: 50
```

```
In [34]: l[5]
```

```
-----  
IndexError                                Traceback (most recent call last)  
Cell In[34], line 1  
----> 1 l[5]  
  
IndexError: list index out of range
```

```
In [35]: l[10]
```

```
-----  
IndexError                                Traceback (most recent call last)  
Cell In[35], line 1  
----> 1 l[10]  
  
IndexError: list index out of range
```

```
In [36]: l
```

```
Out[36]: [10, 20, 30, 40, 50]
```

```
In [37]: l[0]
```

```
Out[37]: 10
```

```
In [38]: l[0] = 100
```

```
In [39]: l
```

```
Out[39]: [100, 20, 30, 40, 50]
```

```
In [40]: l[-1] = 'Ajay Adam'
```

```
In [41]: l
```

```
Out[41]: [100, 20, 30, 40, 'Ajay Adam']
```

```
In [42]: l.append('feb')
```

```
In [43]: l
```

```
Out[43]: [100, 20, 30, 40, 'Ajay Adam', 'feb']
```

```
In [44]: l.append(40)
```

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

```
Out[45]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [46]: 12
```

```
Out[46]: [10, 3.4, 'ten', True, (1+2j)]
```

```
In [47]: len(l2)
```

```
Out[47]: 5
```

```
In [48]: l2.clear()
```

```
In [49]: l2
```

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

```
In [50]: len(l2)
```

```
Out[50]: 0
```

```
In [51]: del l2
```

```
In [52]: l
```

```
Out[52]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [53]: l.count(100)
```

```
Out[53]: 1
```

```
In [54]: l.count(40)
```

```
Out[54]: 2
```

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

```
Out[55]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [56]: l.count(1000)
```

```
Out[56]: 0
```

```
In [58]: print(l)
         print(l1)
```

```
[100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
[10, 3.4, 'ten', True, (1+2j)]
```

```
In [60]: print(len(l))
         print(len(l1))
```

```
7
5
```

```
In [61]: l
```

```
Out[61]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [63]: 100 in l
```

Out[63]: True

In [64]: `1000 in l`

Out[64]: False

In [65]: `l`

Out[65]: `[100, 20, 30, 40, 'Ajay Adam', 'feb', 40]`

In [66]: `l1`

Out[66]: `[10, 3.4, 'ten', True, (1+2j)]`

In [67]: `l2 = []`

In [68]: `print(len(l))`
`print(len(l1))`
`print(len(l2))`

7
5
0

In [69]: `l`

Out[69]: `[100, 20, 30, 40, 'Ajay Adam', 'feb', 40]`

In [70]: `l1`

Out[70]: `[10, 3.4, 'ten', True, (1+2j)]`

In [71]: `l2`

Out[71]: `[]`

In [72]: `l2.extend(l)`

In [73]: `l2`

Out[73]: `[100, 20, 30, 40, 'Ajay Adam', 'feb', 40]`

In [74]: `l2.extend(l1)`

In [75]: `l2`

Out[75]: `[100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]`

In [76]: `l1`

Out[76]: `[10, 3.4, 'ten', True, (1+2j)]`

```
In [77]: l1.extend(l2)
```

```
In [78]: l1
```

```
Out[78]: [10,
          3.4,
          'ten',
          True,
          (1+2j),
          100,
          20,
          30,
          40,
          'Ajay Adam',
          'feb',
          40,
          10,
          3.4,
          'ten',
          True,
          (1+2j)]
```

```
In [79]: len(l1)
```

```
Out[79]: 17
```

```
In [80]: l
```

```
Out[80]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [81]: l.index('feb')
```

```
Out[81]: 5
```

```
In [82]: l
```

```
Out[82]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [83]: l[:]
```

```
Out[83]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
In [84]: l2[:]
```

```
Out[84]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [85]: l2[0:6]
```

```
Out[85]: [100, 20, 30, 40, 'Ajay Adam', 'feb']
```

```
In [86]: l2
```

```
Out[86]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [87]: 12[3:10]
```

```
Out[87]: [40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten']
```

```
In [88]: 12
```

```
Out[88]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [89]: 12[::2]
```

```
Out[89]: [100, 30, 'Ajay Adam', 40, 3.4, True]
```

```
In [90]: 12[::5]
```

```
Out[90]: [100, 'feb', True]
```

Backward indexing & backward slicing

```
In [91]: 12
```

```
Out[91]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [92]: 12[:]
```

```
Out[92]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [93]: 12[-5]
```

```
Out[93]: 10
```

```
In [94]: 12
```

```
Out[94]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [95]: 12[:-9]
```

```
Out[95]: [100, 20, 30]
```

```
In [96]: 12
```

```
Out[96]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [97]: 12[:-3]
```

```
Out[97]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4]
```

```
In [98]: 12
```



```
Out[98]: [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [99]: l2[-3:]
```

```
Out[99]: ['ten', True, (1+2j)]
```

```
In [100... l2
```

```
Out[100... [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [101... l2[3:-3]
```

```
Out[101... [40, 'Ajay Adam', 'feb', 40, 10, 3.4]
```

```
In [102... l2
```

```
Out[102... [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [103... l2[::-1]
```

```
Out[103... [(1+2j), True, 'ten', 3.4, 10, 40, 'feb', 'Ajay Adam', 40, 30, 20, 100]
```

```
In [104... l2
```

```
Out[104... [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [106... l2[:-3]
```

```
Out[106... [100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4]
```

```
In [107... l2[::-3]
```

```
Out[107... [(1+2j), 3.4, 'feb', 30]
```

```
In [108... print(l)
print(l1)
print(l2)
```

```
[100, 20, 30, 40, 'Ajay Adam', 'feb', 40]
```

```
[10, 3.4, 'ten', True, (1+2j), 100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'te
n', True, (1+2j)]
```

```
[100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', True, (1+2j)]
```

```
In [111... l1.remove(1+2j)
```

```
In [112... print(l1)
```

```
[10, 3.4, 'ten', True, 100, 20, 30, 40, 'Ajay Adam', 'feb', 40, 10, 3.4, 'ten', Tru
e]
```

```
In [113... l1
```

```
Out[113... [10,  
            3.4,  
            'ten',  
            True,  
            100,  
            20,  
            30,  
            40,  
            'Ajay Adam',  
            'feb',  
            40,  
            10,  
            3.4,  
            'ten',  
            True]
```