

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  
Cell In[7], line 1  
----> 1 l.append()
```

```
Traceback (most recent call last)
```

```
TypeError: list.append() takes exactly one argument (0 given)
```

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

```
In [10]: l.remove(78)  
1
```

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

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

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

```
In [12]: l
```

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

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

```
In [14]: l
```

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

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

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

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

```
In [17]: l
```

```
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]: l2  
l
```

```
NameError
```

```
Cell In[22], line 1
```

```
----> 1 l2
```

```
2 l
```

```
Traceback (most recent call last)
```

```
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]: l  
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]: 1
```

```
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]: 1
```

```
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]: 1
```

```
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]: 1
```

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

```
In [66]: 11
```

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

```
In [67]: 12 = []
```

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

```
7
5
0
```

```
In [69]: 1
```

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

```
In [70]: 11
```

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

```
In [71]: 12
```

```
Out[71]: []
```

```
In [72]: 12.extend(l)
```

```
In [73]: 12
```

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

```
In [74]: 12.extend(l1)
```

```
In [75]: 12
```

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

```
In [76]: 11
```

```
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]: 1
```

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

```
In [81]: l1.index('feb')
```

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

```
In [82]: 1
```

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

```
In [83]: l1[:]
```

```
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]: 12[-3:]
```

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

```
In [100... 12
```

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

```
In [101... 12[3:-3]
```

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

```
In [102... 12
```

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

```
In [103... 12[::-1]
```

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

```
In [104... 12
```

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

```
In [106... 12[:-3]
```

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

```
In [107... 12[::-3]
```

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

```
In [108... print(l1)
print(l11)
print(l12)
```

```
[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... 11
```

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