

List creation

```
In [1]: l1=[]  
l1
```

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

```
In [4]: print(type(l1))  
  
<class 'list'>
```

```
In [5]: l2=[10,20,45,63]  
l2
```

```
Out[5]: [10, 20, 45, 63]
```

```
In [6]: l3=[55,43,23,65,76]  
l3
```

```
Out[6]: [55, 43, 23, 65, 76]
```

```
In [7]: l4=['sridhar','swapna','sreecharan','mokshith']  
l4
```

```
Out[7]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [11]: l5=[20,30.5,True,1+2j,'hi']  
l5
```

```
Out[11]: [20, 30.5, True, (1+2j), 'hi']
```

```
In [12]: len(l5)
```

```
Out[12]: 5
```

```
In [14]: print(len(l1))  
print(len(l2))  
print(len(l3))  
print(len(l4))  
print(len(l5))
```

```
0  
4  
5  
4  
5
```

```
In [15]: l2
```

```
Out[15]: [10, 20, 45, 63]
```

```
In [16]: l2[0]
```

```
Out[16]: 10
```

```
In [17]: 15
```

```
Out[17]: [20, 30.5, True, (1+2j), 'hi']
```

```
In [18]: 15[-1]
```

```
Out[18]: 'hi'
```

```
In [19]: 14
```

```
Out[19]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [20]: 14[3]
```

```
Out[20]: 'mokshith'
```

```
In [21]: 15[:3]
```

```
Out[21]: [20, 30.5, True]
```

```
In [22]: 14[2:]
```

```
Out[22]: ['sreecharan', 'mokshith']
```

```
In [23]: 15[:-3]
```

```
Out[23]: [20, 30.5]
```

```
In [24]: 15[-3:]
```

```
Out[24]: [True, (1+2j), 'hi']
```

```
In [25]: 15[::2]
```

```
Out[25]: [20, True, 'hi']
```

```
In [26]: 15[::1]
```

```
Out[26]: [20, 30.5, True, (1+2j), 'hi']
```

```
In [27]: 15[4:]
```

```
Out[27]: ['hi']
```

```
In [28]: 15[-4:]
```

```
Out[28]: [30.5, True, (1+2j), 'hi']
```

```
In [29]: 15[:-4]
```

```
Out[29]: [20]
```

```
In [30]: 14[:]
```

```
Out[30]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

Add Remove and Change Items

```
In [31]: 12
```

```
Out[31]: [10, 20, 45, 63]
```

```
In [33]: 12.append(30)
```

```
In [34]: 12
```

```
Out[34]: [10, 20, 45, 63, 30]
```

```
In [35]: 12.append(60)
```

```
In [36]: 12
```

```
Out[36]: [10, 20, 45, 63, 30, 60]
```

```
In [37]: 12.insert(1,15)
```

```
In [38]: 12
```

```
Out[38]: [10, 15, 20, 45, 63, 30, 60]
```

```
In [39]: 12.insert(2,25)
```

```
In [40]: 12
```

```
Out[40]: [10, 15, 25, 20, 45, 63, 30, 60]
```

```
In [41]: 12.insert(1,10)
```

```
In [42]: 12
```

```
Out[42]: [10, 10, 15, 25, 20, 45, 63, 30, 60]
```

```
In [43]: 12.remove(10)
```

```
In [44]: 12
```

```
Out[44]: [10, 15, 25, 20, 45, 63, 30, 60]
```

```
In [47]: 12.pop
```

```
Out[47]: <function list.pop(index=-1, /)>
```

```
In [48]: 12
```

```
Out[48]: [10, 15, 25, 20, 45, 63, 30, 60]
```

```
In [49]: 12.pop()
```

```
Out[49]: 60
```

```
In [50]: 12
```

```
Out[50]: [10, 15, 25, 20, 45, 63, 30]
```

```
In [51]: 12.pop(0)
```

```
Out[51]: 10
```

```
In [52]: 12
```

```
Out[52]: [15, 25, 20, 45, 63, 30]
```

```
In [53]: 12.append(10)
```

```
In [54]: 12
```

```
Out[54]: [15, 25, 20, 45, 63, 30, 10]
```

```
In [55]: 12.insert(0,10)
```

```
In [56]: 12
```

```
Out[56]: [10, 15, 25, 20, 45, 63, 30, 10]
```

```
In [58]: del 12[0]
```

```
In [59]: 12
```

```
Out[59]: [15, 25, 20, 45, 63, 30, 10]
```

```
In [60]: 12.insert(0,10)
```

```
In [61]: 12
```

```
Out[61]: [10, 15, 25, 20, 45, 63, 30, 10]
```

```
In [62]: 12[0]=2  
12[1]=5  
12[2]=10
```

```
In [63]: 12
```

```
Out[63]: [2, 5, 10, 20, 45, 63, 30, 10]
```

```
In [64]: 15
```

```
Out[64]: [20, 30.5, True, (1+2j), 'hi']
```

```
In [65]: 15.clear()
```

```
In [66]: 15
```

```
Out[66]: []
```

```
In [67]: len(15)
```

```
Out[67]: 0
```

```
In [68]: 13
```

```
Out[68]: [55, 43, 23, 65, 76]
```

```
In [70]: 14
```

```
Out[70]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

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

```
Out[71]: [2, 5, 10, 20, 45, 63, 30, 10]
```

```
In [75]: 13=14.copy()
```

```
In [73]: 13
```

```
Out[73]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [74]: 14
```

```
Out[74]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [76]: 15
```

```
Out[76]: ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [77]: 11
```

```
Out[77]: []
```

```
In [78]: 12
```

```
Out[78]: [2, 5, 10, 20, 45, 63, 30, 10]
```

```
In [80]: 16=[10,20.5,True,2+3j,'hi']
```

```
In [81]: 12.extend(16)
```

```
In [82]: 12
```

```
Out[82]: [2, 5, 10, 20, 45, 63, 30, 10, 10, 20.5, True, (2+3j), 'hi']
```

```
In [83]: 16
```

```
Out[83]: [10, 20.5, True, (2+3j), 'hi']
```

```
In [84]: 11.extend(12)
```

```
In [85]: 11
```

```
Out[85]: [2, 5, 10, 20, 45, 63, 30, 10, 10, 20.5, True, (2+3j), 'hi']
```

```
In [86]: l1==l2
```

```
Out[86]: True
```

```
In [87]: l1.extend(l2)
```

```
In [88]: l1
```

```
Out[88]: [2,
          5,
          10,
          20,
          45,
          63,
          30,
          10,
          10,
          20.5,
          True,
          (2+3j),
          'hi',
          2,
          5,
          10,
          20,
          45,
          63,
          30,
          10,
          10,
          20.5,
          True,
          (2+3j),
          'hi']
```

```
In [89]: l2
```

```
Out[89]: [2, 5, 10, 20, 45, 63, 30, 10, 10, 20.5, True, (2+3j), 'hi']
```

LIST MEMBERSHIP

```
In [90]: 10 in l2
```

```
Out[90]: True
```

```
In [92]: 0 in l2
```

```
Out[92]: False
```

```
In [93]: 1 in l2
```

```
Out[93]: True
```

```
In [94]: 3 in l2
```

Out[94]: False

```
In [102... if 'three' in l2:
    print('three is present in the l2')
else:
    print('three is not present in the list')
```

three is not present in the list

```
In [103... if 2 in l2:
    print('2 is present in the l2')
else:
    print('2 is not present in the l2')
```

2 is present in the l2

JOIN LIST

```
In [105... 11
```

```
Out[105... [2,
5,
10,
20,
45,
63,
30,
10,
10,
20.5,
True,
(2+3j),
'hi',
2,
5,
10,
20,
45,
63,
30,
10,
10,
20.5,
True,
(2+3j),
'hi']
```

```
In [106... 12
```

```
Out[106... [2, 5, 10, 20, 45, 63, 30, 10, 10, 20.5, True, (2+3j), 'hi']
```

```
In [107... 13
```

```
Out[107... ['sridhar', 'swapna', 'sreecharan', 'mokshith']
```

```
In [108... 17=l2+l3
```

```
In [109... 17
```

```
Out[109... [2,  
5,  
10,  
20,  
45,  
63,  
30,  
10,  
10,  
20.5,  
True,  
(2+3j),  
'hi',  
'sridhar',  
'swapna',  
'sreecharan',  
'mokshith']
```

REVERSE AND SORTING LIST

```
In [110... 12
```

```
Out[110... [2, 5, 10, 20, 45, 63, 30, 10, 10, 20.5, True, (2+3j), 'hi']
```

```
In [111... 12.reverse()
```

```
In [112... 12
```

```
Out[112... ['hi', (2+3j), True, 20.5, 10, 10, 30, 63, 45, 20, 10, 5, 2]
```

```
In [113... 18=[3,4,2,1,5,6,9,7]
```

```
In [114... 18.sort()
```

```
In [115... 18
```

```
Out[115... [1, 2, 3, 4, 5, 6, 7, 9]
```

```
In [116... 18.sort(reverse=True)
```

```
In [117... 18
```

```
Out[117... [9, 7, 6, 5, 4, 3, 2, 1]
```

```
In [118... 18
```

```
Out[118... [9, 7, 6, 5, 4, 3, 2, 1]
```

```
In [121... for i in 18:  
    print(i)
```


9
7
6
5
4
3
2
1

```
In [122... for i in enumerate (l8):  
            print(i)
```

(0, 9)
(1, 7)
(2, 6)
(3, 5)
(4, 4)
(5, 3)
(6, 2)
(7, 1)

count

```
In [123... 18
```

```
Out[123... [9, 7, 6, 5, 4, 3, 2, 1]
```

```
In [124... 18.count(9)
```

```
Out[124... 1
```

```
In [125... 18.append(6)
```

```
In [126... 18
```

```
Out[126... [9, 7, 6, 5, 4, 3, 2, 1, 6]
```

```
In [127... 18.count(6)
```

```
Out[127... 2
```

ALL/ANY The all()returns:

TRUE-if all elements in the list are true

FALSE-if any element in the list is false

The ANY() returnstrue if any element in the list is true if not ANY()returns false

```
In [128... 19=[2,4,1,0,5]
```

```
In [129... 19
```

Out[129... [2, 4, 1, 0, 5]

In [130... `all(19)`

Out[130... False

In [131... `any(19)`

Out[131... True

In [132... 18

Out[132... [9, 7, 6, 5, 4, 3, 2, 1, 6]

In [133... `all(18)`

Out[133... True

In [134... `any(18)`

Out[134... True

In [136... `18.append(False)`

In [137... 18

Out[137... [9, 7, 6, 5, 4, 3, 2, 1, 6, False]

In [138... `all(18)`

Out[138... False

In [139... `any(18)`

Out[139... True

In []: