list-task

March 5, 2025

1 List Operations

```
[2]: l=[]
```

```
[4]: type(l)
```

```
[4]: list
```

```
[6]: l=[10,20,30,40,'drd',90,65,100]
```

```
[8]: l
```

```
[8]: [10, 20, 30, 40, 'drd', 90, 65, 100]
```

```
[12]: l[0]
```

```
[12]: 10
```

```
[16]: l[-1]
```

```
[16]: 100
```

```
[22]: l1=l.copy()
```

```
[25]: l1
```

```
[25]: [10, 20, 30, 40, 'drd', 90, 65, 100]
```

```
[29]: l==l1
```

```
[29]: True
```

```
[39]: l.insert((len(l)-1),97)
```

```
[41]: l
```

```
[41]: [10, 20, 30, 40, 'drd', 90, 65, 97, 97, 100]
```

```
[43]: l.remove(97)

[45]: l

[45]: [10, 20, 30, 40, 'drd', 90, 65, 97, 100]

[47]: l.sort()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[47], line 1
----> 1 l.sort()

TypeError: '<' not supported between instances of 'str' and 'int'
```

```
[49]: l.remove('drd')

[51]: l

[51]: [10, 20, 30, 40, 90, 65, 97, 100]

[53]: l.sort()

[55]: l

[55]: [10, 20, 30, 40, 65, 90, 97, 100]

[67]: l.sort(reverse=True)

[71]: rl=l.copy()

[91]: rl

[91]: [100, 97, 90, 65, 40, 30, 20, 10]

[103]: l=[10, 20, 30, 40, 65, 90, 97, 100]

[106]: l

[106]: [10, 20, 30, 40, 65, 90, 97, 100]

[108]: l==rl

[108]: False

[110]: l,rl
```

```
[110]: ([10, 20, 30, 40, 65, 90, 97, 100], [100, 97, 90, 65, 40, 30, 20, 10])
```

```
[112]: print(len(l))
```

```
8
```

```
[114]: print(len(rl))
```

```
8
```

```
[116]: len(l)!= len(rl)
```

```
[116]: False
```

```
[118]: l.append(True)
       l.append("Shanti")
       l.append(101)
```

```
[120]: l
```

```
[120]: [10, 20, 30, 40, 65, 90, 97, 100, True, 'Shanti', 101]
```

```
[122]: l.count(101)
```

```
[122]: 1
```

```
[124]: l.remove(100)
```

```
[126]: l
```

```
[126]: [10, 20, 30, 40, 65, 90, 97, True, 'Shanti', 101]
```

```
[132]: l
```

```
[132]: [10, 20, 30, 40, 65, 90, 97, True, 101]
```

```
[134]: l.remove(False)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[134], line 1
----> 1 l.remove(False)

ValueError: list.remove(x): x not in list
```

```
[136]: l.clear()
```

```python
[138]: l
```

```
[138]: []
```

```python
[145]: l1=[10, 20, 30, 40, 65, 90, 97, 100, True, 'Shanti', 101]
```

```python
[148]: l1
```

```
[148]: [10, 20, 30, 40, 65, 90, 97, 100, True, 'Shanti', 101]
```

```python
[150]: for i in l1:
           print(i)
```

```
10
20
30
40
65
90
97
100
True
Shanti
101
```

```python
[152]: l1.append(['dfd',False])
```

```python
[154]: l1
```

```
[154]: [10, 20, 30, 40, 65, 90, 97, 100, True, 'Shanti', 101, ['dfd', False]]
```

```python
[156]: l1.remove(101)
```

```python
[158]: l1
```

```
[158]: [10, 20, 30, 40, 65, 90, 97, 100, True, 'Shanti', ['dfd', False]]
```

```python
[160]: l1.pop()
```

```
[160]: ['dfd', False]
```

```python
[162]: l1.pop()
```

```
[162]: 'Shanti'
```

```python
[164]: l1.pop()
```

```
[164]: True
```

```
[166]: l1.pop()
```

```
[166]: 100
```

```
[168]: l1
```

```
[168]: [10, 20, 30, 40, 65, 90, 97]
```

```
[170]: l1.pop(-2)
```

```
[170]: 90
```

```
[172]: l1
```

```
[172]: [10, 20, 30, 40, 65, 97]
```

```
[174]: l1.insert(0,5)
```

```
[176]: l1
```

```
[176]: [5, 10, 20, 30, 40, 65, 97]
```

```
[180]: l1.extend(rl)
```

```
[182]: l1
```

```
[182]: [5, 10, 20, 30, 40, 65, 97, 100, 97, 90, 65, 40, 30, 20, 10]
```

```
[186]: l1.index(97)
```

```
[186]: 6
```

```
[188]: l1[::-1]
```

```
[188]: [10, 20, 30, 40, 65, 90, 97, 100, 97, 65, 40, 30, 20, 10, 5]
```

```
[190]: l1
```

```
[190]: [5, 10, 20, 30, 40, 65, 97, 100, 97, 90, 65, 40, 30, 20, 10]
```

```
[192]: l1.remove(5)
```

```
[196]: l1
```

```
[196]: [10, 20, 30, 40, 65, 97, 100, 97, 90, 65, 40, 30, 20, 10]
```

```
[204]: l1.insert(8,'Python')
```

```
[206]: l1
```

```
[206]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[210]: l1[8][2:]  #nested slicing
```

```
[210]: 'thon'
```

```
[212]: l1
```

```
[212]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[214]: l1[0:7]
```

```
[214]: [10, 20, 30, 40, 65, 97, 100]
```

```
[225]: l1[-1:-7:-1]
```

```
[225]: [10, 20, 30, 40, 65, 90]
```

```
[229]: l1[-7:-1]
```

```
[229]: ['Python', 90, 65, 40, 30, 20]
```

```
[231]: l1[:]
```

```
[231]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[234]: l1
```

```
[234]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[237]: del l1
```

```
[241]: l1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[241], line 1
----> 1 l1

NameError: name 'l1' is not defined
```

```
[245]: l1=[10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[247]: l1
```

```
[247]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65, 40, 30, 20, 10]
```

```
[251]: p1=l1.pop()
       p2=l1.pop()
       p1
```

```
[251]: 30
```

```
[253]: p2
```

```
[253]: 40
```

```
[255]: l1
```

```
[255]: [10, 20, 30, 40, 65, 97, 100, 97, 'Python', 90, 65]
```

```
[257]: list1=[10,20,30,40]
       list2=['Ten','Twenty','Thirty','Forty']
```

```
[261]: list1.extend(list2)
```

```
[263]: list1
```

```
[263]: [10, 20, 30, 40, 'Ten', 'Twenty', 'Thirty', 'Forty']
```

```
[265]: 10 in list1
```

```
[265]: True
```

```
[267]: 'Ten' in list1
```

```
[267]: True
```

```
[269]: Ten in list1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[269], line 1
----> 1 Ten in list1

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

```
[271]: 'Fifty' in list1
```

[271]: False

[273]:
```python
'fifty' not in list2
```

[273]: True

[275]:
```python
if 'eleven' in list1:
    print('eleven is present in the list')
else:
    print('eleven is not present in the list')
```

eleven is not present in the list

[277]:
```python
list1.reverse()
```

[279]:
```python
list1
```

[279]: ['Forty', 'Thirty', 'Twenty', 'Ten', 40, 30, 20, 10]

[281]:
```python
list1[::-1]
```

[281]: [10, 20, 30, 40, 'Ten', 'Twenty', 'Thirty', 'Forty']

[283]:
```python
for i in list1:
    print(i)
```

Forty
Thirty
Twenty
Ten
40
30
20
10

[285]:
```python
for i in enumerate(list1):
    print(i)
```

(0, 'Forty')
(1, 'Thirty')
(2, 'Twenty')
(3, 'Ten')
(4, 40)
(5, 30)
(6, 20)
(7, 10)

[287]:
```python
l=[1,2,34,5,6,7,78,8,1,2,34,8,2,2,8]
```

```
[289]: l
```

```
[289]: [1, 2, 34, 5, 6, 7, 78, 8, 1, 2, 34, 8, 2, 2, 8]
```

```
[291]: l.count(8)
```

```
[291]: 3
```

```
[293]: l.extend(list1)
```

```
[295]: l
```

```
[295]: [1,
        2,
        34,
        5,
        6,
        7,
        78,
        8,
        1,
        2,
        34,
        8,
        2,
        2,
        8,
        'Forty',
        'Thirty',
        'Twenty',
        'Ten',
        40,
        30,
        20,
        10]
```

```
[297]: list1
```

```
[297]: ['Forty', 'Thirty', 'Twenty', 'Ten', 40, 30, 20, 10]
```

```
[299]: l
```

```
[299]: [1,
        2,
        34,
        5,
        6,
```

```
       7,
       78,
       8,
       1,
       2,
       34,
       8,
       2,
       2,
       8,
       'Forty',
       'Thirty',
       'Twenty',
       'Ten',
       40,
       30,
       20,
       10]
```

[301]: `l.count('Forty')`

[301]: 1

2 All / Any

The all() method returns:

2.0.1 True - If all elements in a list are true

2.0.2 False - If any element in a list is false

The any() function returns True if any element in the list is True. If not, any() returns False.

[304]: `L1 = [1,2,3,4,0]`

[306]: `L1`

[306]: `[1, 2, 3, 4, 0]`

[308]: `all(L1)`

[308]: `False`

[310]: `any(L1)`

[310]: `True`

```
[318]: L2 = [1,2,3,4,True,0]
```

```
[320]: all(L2)    # Returns false as one value is false
```

```
[320]: False
```

```
[322]: any(L2)    # Will Return True as we have items in the list with True value
```

```
[322]: True
```

```
[ ]:
```