LIST

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

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

In [5]:
```
type(l)
```

Out[5]:
```
list
```

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

Out[4]:
```
0
```

In [6]:
```
l.append(10)
```

In [7]:
```
l
```

Out[7]:
```
[10]
```

In [8]:
```
len(l)
```

Out[8]:
```
1
```

In [9]:
```
l.append(10)
l.append(20)
l.append(30)
l.append(40)
```

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

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

In [11]:
```
l1 = []
```

In [12]:
```
l1.append(70)
l1.append(2.3)
l1.append(True)
l1.append('1+2j')
l1.append([1,2,3])
```

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

Out[13]:
```
[70, 2.3, True, '1+2j', [1, 2, 3]]
```

In [14]:
```
print(l)
print(l1)
```

```
[10, 10, 20, 30, 40]
[70, 2.3, True, '1+2j', [1, 2, 3]]
```

In [15]:
```
print(id(l))
print(id(l1))
```

```
2381200705344
2381207530688
```

In [18]:
```
print(len(1))
print(len(l1))
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[18], line 1
----> 1 print(len(1))
      2 print(len(l1))

TypeError: object of type 'int' has no len()
```

In [21]:
```
l2 = l1.copy()
l2
```

Out[21]: [70, 2.3, True, '1+2j', [1, 2, 3]]

In [26]:
```
l1 == l2
```

Out[26]: True

In [23]:
```
print(l1)
print(l2)
```

```
[70, 2.3, True, '1+2j', [1, 2, 3]]
[70, 2.3, True, '1+2j', [1, 2, 3]]
```

In [25]:
```
print(id(l1)) == print(id(l2))
```

```
2381200861248
2381200861248
```

Out[25]: True

In [27]:
```
l
```

Out[27]: [10, 10, 20, 30, 40]

In [28]:
```
l.remove(10)
```

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

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

list indexing and list slicing

In [30]:
```
s8 = 'abcdefghi'
s8
```

Out[30]: 'abcdefghi'

In [31]:
```
s8[0:9]
```

Out[31]: 'abcdefghi'

In [32]:
```
s8[1:8]
```

Out[32]: 'bcdefgh'

In [34]:
```
s8[1: 3]
```

Out[34]: 'bc'

In [35]:
```
s8
```

Out[35]: 'abcdefghi'

In [36]:
```
s8[1: 4]
```

Out[36]: 'bcd'

In [37]:
```
step_indexing = [1,2,3,4,5,6,7,8,9,10]
step_indexing
```

Out[37]: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

In [38]:
```
step_indexing[0:10:4]
```

Out[38]: [1, 5, 9]

In [39]:
```
step_indexing[0:10:5]
```

Out[39]: [1, 6]

In [40]:
```
step_indexing
```

Out[40]: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

In [41]:
```
step_indexing[:]
```

Out[41]: [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]

In [42]:
```
l
```

Out[42]: [10, 20, 30, 40]

In [44]:
```
l5 = l.reverse()
l5
```

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

Out[45]: [40, 30, 20, 10]