Python inbuild or Builtin data Structure

- List
- Tuple
- Set
- Dict

List

In [1]:
```
nums = [10,20,30]
nums
```

Out[1]: [10, 20, 30]

In [2]:
```
nums[0]
```

Out[2]: 10

In [3]:
```
nums[-1]
```

Out[3]: 30

In [4]:
```
nums[1:]
```

Out[4]: [20, 30]

In [6]:
```
nums[:1]
```

Out[6]: [10]

In [7]:
```
nums1 = ['hi','hello']
```

In [8]:
```
nums1
```

Out[8]: ['hi', 'hello']

In [9]:
```
nums2 = ['hi',2.5,5.8]
nums2
```

Out[9]: ['hi', 2.5, 5.8]

In [10]:
```
nums3 = [nums, nums1]
```

In [11]:
```
nums3
```

Out[11]: [[10, 20, 30], ['hi', 'hello']]

In [12]:
```
nums4 = [nums, nums1,nums2]
```

In [13]:
```
nums4
```

Out[13]:
```
[[10, 20, 30], ['hi', 'hello'], ['hi', 2.5, 5.8]]
```

In [14]:
```
nums
```

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

In [15]:
```
 nums.append(45)
```

In [16]:
```
nums
```

Out[16]:
```
[10, 20, 30, 45]
```

In [17]:
```
nums.remove(45)
```

In [18]:
```
nums
```

Out[18]:
```
[10, 20, 30]
```

In [19]:
```
nums.pop()
```

Out[19]:
```
30
```

In [20]:
```
nums
```

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

In [21]:
```
nums1
```

Out[21]:
```
['hi', 'hello']
```

In [22]:
```
nums1.insert(2,'nit')
```

In [23]:
```
nums1
```

Out[23]:
```
['hi', 'hello', 'nit']
```

In [24]:
```
nums2
```

Out[24]:
```
['hi', 2.5, 5.8]
```

In [25]:
```
del nums2[2:]
```

In [26]:
```
nums2
```

Out[26]:
```
['hi', 2.5]
```

In [27]:
```
nums2.extend([29,15,20])
```

In [28]:
```
nums2
```

Out[28]:
```
['hi', 2.5, 29, 15, 20]
```

In [29]:
```
nums3.extend(['a',5,6.7])
```

In [30]:
```
nums3
```

Out[30]:
```
[[10, 20], ['hi', 'hello', 'nit'], 'a', 5, 6.7]
```

In [31]:
```
nums
```

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

In [32]:
```
min(nums)
```

Out[32]:
```
10
```

In [33]:
```
max(nums)
```

Out[33]:
```
20
```

In [34]:
```
nums1
```

Out[34]:
```
['hi', 'hello', 'nit']
```

In [35]:
```
min(nums1)
```

Out[35]:
```
'hello'
```

In [36]:
```
sum(nums)
```

Out[36]:
```
30
```

In [37]:
```
nums.sort()
```

In [38]:
```
nums
```

Out[38]:
```
[10, 20]
```

Tuple

In [39]:
```
t = (15,26,59)
t
```

Out[39]:
```
(15, 26, 59)
```

In [40]:
```
t[0]
```

Out[40]:
```
15
```

In [43]:
```
t[0] = 10
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[43], line 1
----> 1 t[0] = 10

TypeError: 'tuple' object does not support item assignment
```

Set

In [44]:
```
s = {}
```

In [45]:
```
s1 = {21,6,45,58,7}
```

In [46]:
```
s1
```

Out[46]:
```
{6, 7, 21, 45, 58}
```

In [47]:
```
s2={50,65,85,'nit',68}
```

In [48]:
```
s2
```

Out[48]:
```
{50, 65, 68, 85, 'nit'}
```

In [51]:
```
s1[1]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[51], line 1
----> 1 s1[1]

TypeError: 'set' object is not subscriptable
```

Dictionary

In [52]:
```
data = {1:'apple',2:'banana',4:'orange'}
data
```

Out[52]:
```
{1: 'apple', 2: 'banana', 4: 'orange'}
```

In [53]:
```
data[4]
```

Out[53]:
```
'orange'
```

In [55]:
```
data[1]
```

Out[55]:
```
'apple'
```

In [56]:
```
data[3]
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
Cell In[56], line 1
----> 1 data[3]

KeyError: 3
```

In [57]:
```
data.get(2)
```

Out[57]:
```
'banana'
```

In [59]:
```
data.get(4)
```

Out[59]:
```
'orange'
```

In [60]:
```
data.get(3)
```

In [61]:
```
print(data.get(3))
```

```
None
```

In [62]:
```
data.get(1,'Not Fount')
```

Out[62]:
```
'apple'
```

In [63]:
```
data.get(3,'Not Fount')
```

Out[63]:
```
'Not Fount'
```

In [64]:
```
data[5] = 'Five'
```

In [65]:
```
data
```

Out[65]:
```
{1: 'apple', 2: 'banana', 4: 'orange', 5: 'Five'}
```

In [66]:
```
del data [5]
```

In [67]:
```
data
```

Out[67]:
```
{1: 'apple', 2: 'banana', 4: 'orange'}
```

In [74]:
```
prog = {'python':['vscode','pycharm'],'machine learning' : 'sklearn','datascienc
```

In [75]:
```
prog
```

Out[75]:
```
{'python': ['vscode', 'pycharm'],
 'machine learning': 'sklearn',
 'datascience': ['jupyter', 'spyder']}
```

In [76]:
```
prog['python']
```

Out[76]:
```
['vscode', 'pycharm']
```

In [77]:
```
prong['machine learning']
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[77], line 1
----> 1 prong['machine learning']

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

In [78]:
```
prog['datascience']
```

Out[78]:
```
['jupyter', 'spyder']
```

In [ ]:

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