7-mar

March 7, 2025

0.1 set

[2]:
```
s={}
s
```

[2]:
```
{}
```

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

[4]:
```
dict
```

[8]:
```
s1=set()
type(s1)
```

[8]:
```
set
```

[12]:
```
s1
```

[12]:
```
set()
```

[14]:
```
s2={20,100,3,45}
s2
```

[14]:
```
{3, 20, 45, 100}
```

[16]:
```
s3={'z','l','c','e','f'}
s3
```

[16]:
```
{'c', 'e', 'f', 'l', 'z'}
```

[18]:
```
s
```

[18]:
```
{}
```

[20]:
```
s4={1,2.3,'nit',1+2j,[1,2,3],(4,5,6),True}
s4
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[20], line 1
----> 1 s4={1,2.3,'nit',1+2j,[1,2,3],(4,5,6),True}
      2 s4

TypeError: unhashable type: 'list'
```

[22]:
```
s5={2,3.4,'nit',1+2j,False}
s5
```

[22]:
```
{(1+2j), 2, 3.4, False, 'nit'}
```

[27]:
```
print(s1)
print(s2)
print(s3)
print(s5)
```

```
set()
{45, 3, 100, 20}
{'l', 'f', 'z', 'e', 'c'}
{False, 2, 3.4, (1+2j), 'nit'}
```

[29]:
```
s2.add(30)
```

[31]:
```
s2
```

[31]:
```
{3, 20, 30, 45, 100}
```

[33]:
```
s2.add(200)
s2
```

[33]:
```
{3, 20, 30, 45, 100, 200}
```

[35]:
```
s2[:]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[35], line 1
----> 1 s2[:]

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

[37]:
```
s2
```

[37]:
```
{3, 20, 30, 45, 100, 200}
```

[39]:
```
s2[1:5]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[39], line 1
----> 1 s2[1:5]

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

[41]:
```
s5
```

[41]:
```
{(1+2j), 2, 3.4, False, 'nit'}
```

[43]:
```
s4=s5.copy()
s4
```

[43]:
```
{(1+2j), 2, 3.4, False, 'nit'}
```

[49]:
```
s4.add(2)
s4
```

[49]:
```
{(1+2j), 2, 3.4, False, 'nit'}
```

[51]:
```
s5.clear()
```

[53]:
```
s5
```

[53]:
```
set()
```

[55]:
```
del s5
```

[57]:
```
s4
```

[57]:
```
{(1+2j), 2, 3.4, False, 'nit'}
```

[59]:
```
s4.remove((1+2j))
```

[61]:
```
s4
```

[61]:
```
{2, 3.4, False, 'nit'}
```

[65]:
```
s3
```

[65]:
```
{'c', 'e', 'f', 'l', 'z'}
```

[67]:
```
s3.discard('m')
```

[73]:
```
s3.remove('f')
```

[75]:
```
s3
```

[75]:
```
{'c', 'e', 'l', 'z'}
```

[79]:
```
s3.discard('e')
s3
```

[79]:
```
{'c', 'l', 'z'}
```

[81]:
```
s3.pop()
```

[81]:
```
'l'
```

[83]:
```
s3
```

[83]:
```
{'c', 'z'}
```

[85]:
```
s2
```

[85]:
```
{3, 20, 30, 45, 100, 200}
```

[89]:
```
s2.pop()
```

[89]:
```
3
```

[91]:
```
s2
```

[91]:
```
{20, 30, 45, 100, 200}
```

[93]:
```
for i in s2:
    print(i)
```

```
100
200
45
20
30
```

[95]:
```
s2
```

[95]:
```
{20, 30, 45, 100, 200}
```

[97]:
```
5 in s2
```

[97]:
```
False
```

[99]:
```
45 in s2
```

[99]:
```
True
```

[101]:
```
s2
```

[101]:
```
{20, 30, 45, 100, 200}
```

[103]:
```
s2.update(s3)
```

[105]:
```
s2
```

[105]:
```
{100, 20, 200, 30, 45, 'c', 'z'}
```

[115]:
```
s3
```

[115]:
```
{'c', 'z'}
```

0.2 set operations

[117]:
```
s6={1,2,3,4,5}
s7={4,5,6,7,8}
s8={8,9,10}
```

[119]:
```
s6.union(s7)
```

[119]:
```
{1, 2, 3, 4, 5, 6, 7, 8}
```

[113]:
```
s6.union(s7,s8)
```

[113]:
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

[121]:
```
s6|s7
```

[121]:
```
{1, 2, 3, 4, 5, 6, 7, 8}
```

[123]:
```
s6|s7|s8
```

[123]:
```
{1, 2, 3, 4, 5, 6, 7, 8, 9, 10}
```

[125]:
```
print(s6)
print(s7)
print(s8)
```

```
{1, 2, 3, 4, 5}
{4, 5, 6, 7, 8}
{8, 9, 10}
```

[127]:
```
s6.intersection(s7)
```

[127]:
```
{4, 5}
```

[129]:
```
s6.intersection(s8)
```

[129]:
```
set()
```

[131]:
```
s7.intersection(s8)
```

[131]:
```
{8}
```

[133]:
```
s6&s7
```

[133]:
```
{4, 5}
```

[135]:
```
s6&s7
```

[135]:
```
{4, 5}
```

[137]:
```
s7&s8
```

[137]:
```
{8}
```

[139]:
```
s6&s7&s8
```

[139]:
```
set()
```

[141]:
```
print(s6)
print(s7)
print(s8)
```

```
{1, 2, 3, 4, 5}
{4, 5, 6, 7, 8}
{8, 9, 10}
```

[143]:
```
s6.difference(s7)
```

[143]:
```
{1, 2, 3}
```

[145]:
```
s6-s7
```

[145]:
```
{1, 2, 3}
```

[147]:
```
s7-s8
```

[147]: {4, 5, 6, 7}

[149]:
```
s6-s7-s8
```

[149]: {1, 2, 3}

[151]:
```
s8-s7
```

[151]: {9, 10}

[153]:
```
s8-s6
```

[153]: {8, 9, 10}

[167]:
```
print(s6)
print(s7)
print(s8)
```

```
{1, 2, 3, 4, 5}
{4, 5, 6, 7, 8}
{8, 9, 10}
```

[157]:
```
s6.symmetric_difference(s7)
```

[157]: {1, 2, 3, 6, 7, 8}

[159]:
```
s6.symmetric_difference(s8)
```

[159]: {1, 2, 3, 4, 5, 8, 9, 10}

[161]:
```
s7.symmetric_difference(s6)
```

[161]: {1, 2, 3, 6, 7, 8}

[163]:
```
s8.symmetric_difference(s7)
```

[163]: {4, 5, 6, 7, 9, 10}

[165]:
```
s8.symmetric_difference(s6)
```

[165]: {1, 2, 3, 4, 5, 8, 9, 10}

[169]:
```
print(s6)
```

```
{1, 2, 3, 4, 5}
```

[171]:
```
print(s7)
```

```
{4, 5, 6, 7, 8}
```

[173]:
```
print(s8)
```

```
{8, 9, 10}
```

[ ]:

[ ]:

[ ]:

[ ]:

[ ]:

[ ]: