10 th March set ,dict

In [1]:
```
# superset
# subset
# disjoint
```

In [2]:
```
s11 = {1,2,3,4,5,6,7,8,9}
s12 = {3,4,5,6,7,8}
s13 = {10,20,30,40}
```

In [3]:
```
s11.issuperset(s12)
```

Out[3]: True

In [4]:
```
s12.issubset(s12)
```

Out[4]: True

In [5]:
```
s13.isdisjoint(s12)
```

Out[5]: True

In [6]:
```
for i in s12:
    print(i)
```

```
3
4
5
6
7
8
```

In [7]:
```
for i in enumerate (s12):
    print(i)
```

```
(0, 3)
(1, 4)
(2, 5)
(3, 6)
(4, 7)
(5, 8)
```

In [8]:
```
s12
```

Out[8]: {3, 4, 5, 6, 7, 8}

In [9]:
```
sum(s12)
```

Out[9]: 33

In [10]:
```
max(s12)
```

Out[10]: 8

In [11]:
```
min(s12)
```

Out[11]: 3

In [12]:
```
s15 = {10,20,30,40,50,60,70,80}
s16 = {20,40,60,80}
s17 = {1,2,3,8,9}
```

In [13]:
```
s15.issuperset(s16)
```

Out[13]: True

In [14]:
```
s17.isdisjoint(s16)
```

Out[14]: True

In [15]:
```
s17.issubset(s15)
```

Out[15]: False

In [16]:
```
s16.issubset(s15)
```

Out[16]: True

Set is completed

In [ ]:
```

```

Dictionary

In [17]:
```
mydict = dict() # defining a dictionary
mydict
```

Out[17]: {}

In [18]:
```
d = {} # empty dictionary
d
```

Out[18]: {}

In [19]:
```
type (d)
```

Out[19]: dict

In [20]:
```
dict1 = {'A' :'plants','B': 'animals','C' : 'humans','D':'birds'} # (keys , values)
dict1
```

Out[20]: {'A': 'plants', 'B': 'animals', 'C': 'humans', 'D': 'birds'}

In [21]:
```
dict1.keys()
```

Out[21]: dict_keys(['A', 'B', 'C', 'D'])

In [22]:
```
dict1.values()
```

Out[22]: dict_values(['plants', 'animals', 'humans', 'birds'])

In [23]:
```
dict1.items()
```

Out[23]: dict_items([('A', 'plants'), ('B', 'animals'), ('C', 'humans'), ('D', 'birds')])

In [24]:
```
dict2 = {1:'AB',2:'CD',3:'EF'}
dict2
```

Out[24]: {1: 'AB', 2: 'CD', 3: 'EF'}

In [25]:
```
dict3 = dict2.copy()
```

In [26]:
```
dict3
```

Out[26]: {1: 'AB', 2: 'CD', 3: 'EF'}

In [27]:
```
print(dict1)
print(dict2)
print(dict3)
```

```
{'A': 'plants', 'B': 'animals', 'C': 'humans', 'D': 'birds'}
{1: 'AB', 2: 'CD', 3: 'EF'}
{1: 'AB', 2: 'CD', 3: 'EF'}
```

In [28]:
```
dict3.items()
```

Out[28]: dict_items([(1, 'AB'), (2, 'CD'), (3, 'EF')])

In [29]:
```
dict1['D'] = 'Plants'
dict1
```

Out[29]: {'A': 'plants', 'B': 'animals', 'C': 'humans', 'D': 'Plants'}

In [30]:
```
dict3[3]
```

Out[30]: 'EF'

In [31]:
```
keys = {'shiva','ram','vinay','ganesh'} # creating a dict from a sequence of keys a
value = [100,150,200,50,100]
dict = dict.fromkeys(keys,value)
dict
```

Out[31]:
```
{'vinay': [100, 150, 200, 50, 100],
 'ganesh': [100, 150, 200, 50, 100],
 'shiva': [100, 150, 200, 50, 100],
 'ram': [100, 150, 200, 50, 100]}
```

In [32]:
```
value.append(10)
dict
```

Out[32]:
```
{'vinay': [100, 150, 200, 50, 100, 10],
 'ganesh': [100, 150, 200, 50, 100, 10],
 'shiva': [100, 150, 200, 50, 100, 10],
 'ram': [100, 150, 200, 50, 100, 10]}
```

In [33]:
```
value.append(1.5)
dict
```

Out[33]:
```
{'vinay': [100, 150, 200, 50, 100, 10, 1.5],
 'ganesh': [100, 150, 200, 50, 100, 10, 1.5],
 'shiva': [100, 150, 200, 50, 100, 10, 1.5],
 'ram': [100, 150, 200, 50, 100, 10, 1.5]}
```

In [34]:
```
dict.values()
```

Out[34]:
```
dict_values([[100, 150, 200, 50, 100, 10, 1.5], [100, 150, 200, 50, 100, 10, 1.5],
[100, 150, 200, 50, 100, 10, 1.5], [100, 150, 200, 50, 100, 10, 1.5]])
```

In [35]:
```
dict.keys()
```

Out[35]:
```
dict_keys(['vinay', 'ganesh', 'shiva', 'ram'])
```

In [36]:
```
dict.items()
```

Out[36]:
```
dict_items([('vinay', [100, 150, 200, 50, 100, 10, 1.5]), ('ganesh', [100, 150, 20
0, 50, 100, 10, 1.5]), ('shiva', [100, 150, 200, 50, 100, 10, 1.5]), ('ram', [100,
150, 200, 50, 100, 10, 1.5])])
```

In [37]:
```
d1 = {1:'apple','B':'ball'}
d1
```

Out[37]:
```
{1: 'apple', 'B': 'ball'}
```

In [38]:
```
d1.values()
```

Out[38]:
```
dict_values(['apple', 'ball'])
```

In [39]:
```
d1.items()
```

Out[39]:
```
dict_items([(1, 'apple'), ('B', 'ball')])
```

In [40]:
```
d1[2]='cat'
d1
```

Out[40]:
```
{1: 'apple', 'B': 'ball', 2: 'cat'}
```

In [41]:
```
d1['cat']='dog'
d1
```

Out[41]:
```
{1: 'apple', 'B': 'ball', 2: 'cat', 'cat': 'dog'}
```

In [42]:
```
d1.pop('cat') # pop() takes two args(1.key to remove 2.default value(optional)
```

Out[42]:
```
'dog'
```

In [43]:
```
d1
```

Out[43]:
```
{1: 'apple', 'B': 'ball', 2: 'cat'}
```

In [44]:
```
mydict5 = {1:10,2:20,'A':[35,40],'c':(9,3.5)}
mydict5
```

Out[44]:
```
{1: 10, 2: 20, 'A': [35, 40], 'c': (9, 3.5)}
```

In [45]:
```
d5 = {'A': 'apple','B':'ball','C':{'no':1,'name':'cat','value':2}} # nested diction
d5
```

Out[45]:
```
{'A': 'apple', 'B': 'ball', 'C': {'no': 1, 'name': 'cat', 'value': 2}}
```

In [46]:
```
keys = { 1,2,3,4,5} # creating a dictionary from a sequence of keys
d6 = dict.fromkeys(keys)
d6
```

Out[46]:
```
{1: None, 2: None, 3: None, 4: None, 5: None}
```

In [47]:
```
keys = {'A','B','C','D'}
values = [10,20,30]
d7 = dict.fromkeys(keys,values)
d7
```

Out[47]:
```
{'C': [10, 20, 30], 'D': [10, 20, 30], 'B': [10, 20, 30], 'A': [10, 20, 30]}
```

In [48]:
```
for i in enumerate(d7):
    print(i)
```

```
(0, 'C')
(1, 'D')
(2, 'B')
(3, 'A')
```

In [49]:
```
dict
```

Out[49]:
```
{'vinay': [100, 150, 200, 50, 100, 10, 1.5],
 'ganesh': [100, 150, 200, 50, 100, 10, 1.5],
 'shiva': [100, 150, 200, 50, 100, 10, 1.5],
 'ram': [100, 150, 200, 50, 100, 10, 1.5]}
```

In [50]:
```
md = { 'A':'ML','B':'DL','C':'NLP'}
md
```

Out[50]:
```
{'A': 'ML', 'B': 'DL', 'C': 'NLP'}
```

In [51]:
```
md['C'] # Accessing a item in dictionary using key
```

Out[51]:
```
'NLP'
```

In [52]:
```
md.get('B') # Access item by using get() method
```

Out[52]:
```
'DL'
```

In [53]:
```
md1 = { 'name' : 'Nit' , 'id' : 48, 'DOB' : 2003, 'Address' : 'Ameerpet'}
md1
```

Out[53]:
```
{'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'Ameerpet'}
```

In [54]:
```
md1['id'] = 88 # changing items
md1
```

Out[54]:
```
{'name': 'Nit', 'id': 88, 'DOB': 2003, 'Address': 'Ameerpet'}
```

In [55]:
```
dict1 = {'DOB':2002} # changing by using update() function
md1.update(dict1)
md1
```

Out[55]:
```
{'name': 'Nit', 'id': 88, 'DOB': 2002, 'Address': 'Ameerpet'}
```

In [56]:
```
md1['Job'] = 'Data Scientist' # Adding items in the dictionary
md1
```

Out[56]:
```
{'name': 'Nit',
 'id': 88,
 'DOB': 2002,
 'Address': 'Ameerpet',
 'Job': 'Data Scientist'}
```

In [57]:
```
md1.pop('Job') # removing items in the dict
```

Out[57]:
```
'Data Scientist'
```

In [58]:
```
md1
```

Out[58]:
```
{'name': 'Nit', 'id': 88, 'DOB': 2002, 'Address': 'Ameerpet'}
```

In [59]:
```
md1.popitem() # random item is removed
```

Out[59]:
```
('Address', 'Ameerpet')
```

In [60]:
```
md1
```

Out[60]:
```
{'name': 'Nit', 'id': 88, 'DOB': 2002}
```

In [61]:
```
md1['id']=88
```

```
In [ ]: md1
```

```
Out[61]: {'name': 'Nit', 'id': 88, 'DOB': 2002}
```

```
In [62]: del[md1['id']] # removing item using del method
         md1
```

```
Out[62]: {'name': 'Nit', 'DOB': 2002}
```

```
In [63]: md1.clear() # delete the dictionary object
         md1
```

```
Out[63]: {}
```

```
In [72]: Mydict = { 'name' : 'Nit' , 'id' : 48, 'DOB' : 2003, 'Address' : 'hyderabad'}
         Mydict
```

```
Out[72]: {'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'hyderabad'}
```

```
In [74]: Mydict1 = Mydict.copy() # creating a copy of the dictionary
```

```
In [75]: Mydict = Mydict1 # creating a new reference
```

```
In [76]: id(Mydict),id(Mydict1) # address of the both dict stored in same loaction
```

```
Out[76]: (2078014296256, 2078014296256)
```

```
In [78]: print(Mydict)
         print(Mydict1)
```

```
{'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'hyderabad'}
{'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'hyderabad'}
```

```
In [ ]:
```

```
In [ ]: # Loop through a Dictionary
```

```
In [79]: Mydict
```

```
Out[79]: {'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'hyderabad'}
```

```
In [82]: for i in Mydict:     # prints both key & value pair
             print(i,':',Mydict[i])
```

```
name : Nit
id : 48
DOB : 2003
Address : hyderabad
```

```
In [84]: for i in Mydict: # prints value items
             print(Mydict[i])
```

```
Nit
48
2003
hyderabad
```

In [ ]:

In [ ]:
```
# Dictionary membership
```

In [85]:
```
Mydict
```

Out[85]:
```
{'name': 'Nit', 'id': 48, 'DOB': 2003, 'Address': 'hyderabad'}
```

In [86]:
```
'id' in Mydict
```

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

In [87]:
```
'Address' in Mydict
```

Out[87]:
```
True
```

In [88]:
```
'place' in Mydict
```

Out[88]:
```
False
```

In [ ]:
```
# All / Any
```

In [90]:
```
all (Mydict)
```

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

In [91]:
```
any (Mydict)
```

Out[91]:
```
True
```

In [ ]: