subset, superset, disjoint set

In [2]:
```
A={1,2,3,4,5,6,7,8,9}
B={3,4,5,6,7,8}
C={10,20,30,40}
```

In [3]:
```
B.issubset(A)
```

Out[3]: True

In [4]:
```
A.issubset(B)
```

Out[4]: False

In [5]:
```
C.isdisjoint(A)
```

Out[5]: True

In [6]:
```
A.issuperset(B)
```

Out[6]: True

In [7]:
```
A.issuperset(C)
```

Out[7]: False

In [8]:
```
A
```

Out[8]: {1, 2, 3, 4, 5, 6, 7, 8, 9}

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

Out[9]: 45

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

Out[10]: 9

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

Out[11]: 1

In [12]:
```
len(A)
```

Out[12]: 9

In [13]:
```
list(enumerate(A))
```

Out[13]:
```
[(0, 1), (1, 2), (2, 3), (3, 4), (4, 5), (5, 6), (6, 7), (7, 8), (8, 9)]
```

DICTIONARY

Dictionary is a mutable that means it can be changable

Dictionary is a collection of key and value pair seperated by colon(:) enclosed by curly braces

keys must be unique ,duplicate values are allowed

In [14]:
```
mydict=dict()
mydict
```

Out[14]:
```
{}
```

In [15]:
```
mydict={}
mydict
```

Out[15]:
```
{}
```

In [16]:
```
mydict={1:'one',2:'two',3:'three'}
mydict
```

Out[16]:
```
{1: 'one', 2: 'two', 3: 'three'}
```

In [17]:
```
mydict=dict({1:'one',2:'two',3:'three'})
mydict
```

Out[17]:
```
{1: 'one', 2: 'two', 3: 'three'}
```

In [18]:
```
mydict.keys()
```

Out[18]:
```
dict_keys([1, 2, 3])
```

In [19]:
```
mydict.values()
```

Out[19]:
```
dict_values(['one', 'two', 'three'])
```

In [20]:
```
mydict.items()
```

Out[20]:
```
dict_items([(1, 'one'), (2, 'two'), (3, 'three')])
```

In [21]:
```
mydict={1:'one',2:'two',3:'three','A':['akshitha','perumandla',19]}
```

In [44]:
```
mydict
```

Out[44]:
```
{1: 'one', 2: 'two', 3: 'three', 4: 'four'}
```

In [45]:
```
mydict={1:'one',2:'two','A':['asif',10,20,'akshitha',10],'B':('akshitha',10,"
mydict
```

Out[45]:
```
{1: 'one',
 2: 'two',
 'A': ['asif', 10, 20, 'akshitha', 10],
 'B': ('akshitha', 10, 'perumandla', 10, 20)}
```

In [46]:
```
keys={'a','b','c','d'}
mydict3= dict.fromkeys(keys)
mydict3
```

Out[46]:
```
{'b': None, 'd': None, 'c': None, 'a': None}
```

In [47]:
```
keys={'a','b','c','d'}
value=10
mydict3=dict.fromkeys(keys,value)
mydict3
```

Out[47]:
```
{'b': 10, 'd': 10, 'c': 10, 'a': 10}
```

In [48]:
```
keys={'a','b','c','d'}
value=[10,20,30]
mydict3=dict.fromkeys(keys,value)
mydict3
```

Out[48]:
```
{'b': [10, 20, 30], 'd': [10, 20, 30], 'c': [10, 20, 30], 'a': [10, 20, 3
0]}
```

In [49]:
```
value.append(40)
mydict3
```

Out[49]:
```
{'b': [10, 20, 30, 40],
 'd': [10, 20, 30, 40],
 'c': [10, 20, 30, 40],
 'a': [10, 20, 30, 40]}
```

accessing items

In [50]:
```
mydict={1:'one',2:'two',3:'three',4:'four'}
mydict
```

Out[50]:
```
{1: 'one', 2: 'two', 3: 'three', 4: 'four'}
```

access the item by key value

In [51]:
```
mydict[1]
```

Out[51]: 'one'

In [52]:
```
mydict[5]
```

```
---------------------------------------------------------------------------
KeyError                                  Traceback (most recent call last)
<ipython-input-52-67f1c6d30e02> in <module>
----> 1 mydict[5]

KeyError: 5
```

In [53]:
```
mydict1={'name':'akshitha','ID':74123,'dob':1991,'job':'analyst'}
mydict1
```

Out[53]: {'name': 'akshitha', 'ID': 74123, 'dob': 1991, 'job': 'analyst'}

In [54]:
```
mydict1['name']
```

Out[54]: 'akshitha'

access item by using get method( )

In [55]:
```
mydict1.get('job')
```

Out[55]: 'analyst'

add, remove& changing items

In [56]:
```
mydict1
```

Out[56]: {'name': 'akshitha', 'ID': 74123, 'dob': 1991, 'job': 'analyst'}

In [57]:
```
mydict1['dob']=2004
mydict1['job']='developer'
```

In [58]:
```
mydict1
```

Out[58]: {'name': 'akshitha', 'ID': 74123, 'dob': 2004, 'job': 'developer'}

In [59]:
```
dict1={'dob':2006}
mydict1.update(dict1)
mydict1
```

Out[59]:
```
{'name': 'akshitha', 'ID': 74123, 'dob': 2006, 'job': 'developer'}
```

In [60]:
```
mydict1["address"]='nlg'
mydict1
```

Out[60]:
```
{'name': 'akshitha',
 'ID': 74123,
 'dob': 2006,
 'job': 'developer',
 'address': 'nlg'}
```

adding the item into the dictionary

removing items in the dictionary using pop method

In [61]:
```
mydict1.pop('job')
mydict1
```

Out[61]:
```
{'name': 'akshitha', 'ID': 74123, 'dob': 2006, 'address': 'nlg'}
```

In [62]:
```
mydict1.popitem()         #raandom item is removed from the dictionary
```

Out[62]:
```
('address', 'nlg')
```

In [63]:
```
mydict1
```

Out[63]:
```
{'name': 'akshitha', 'ID': 74123, 'dob': 2006}
```

delete the item using del method

In [64]:
```
del[mydict1['ID']]
mydict1
```

Out[64]:
```
{'name': 'akshitha', 'dob': 2006}
```

In [65]:
```
mydict1.clear()
mydict1
```

Out[65]:
```
{}
```

delete all the items using clear method

In [66]:
```
mydict1.clear()
mydict1
```

Out[66]:
```
{}
```

delete the dictionary using delete method

In [67]:
```
del mydict1
```

In [68]:
```
mydict1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-68-bbd73353e687> in <module>
----> 1 mydict1

NameError: name 'mydict1' is not defined
```

loop through dictionary

In [69]:
```
mydict1
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-69-bbd73353e687> in <module>
----> 1 mydict1

NameError: name 'mydict1' is not defined
```

In [70]:
```
mydict1={'name':'akshitha','id':12345,"dob":2004,'address':'nlg'}
```

In [71]:
```
mydict1
```

Out[71]:
```
{'name': 'akshitha', 'id': 12345, 'dob': 2004, 'address': 'nlg'}
```

In [72]:
```
for i in mydict1:
    print(i)
```

```
name
id
dob
address
```

In [75]:
```
for i in mydict1:
    print(i,':',mydict1[i])
```

```
name : akshitha
id : 12345
dob : 2004
address : nlg
```

dictionary membership

In [76]:
```
'name' in mydict1
```

Out[76]: True

In [ ]:
```

```