Python Data Sets

In [2]:
```
#List
a = [] #empty set creation
print(a)
type(a)
```

```
[]
```

Out[2]: list

In [7]:
```
listi = [1,2,3,4,5,6,7,8] # list creation with int
listf = [9.0,10.0,11.0]    # list creation with float
lists = ['Hello','python'] # list creation with str
listb = [True,False]   # list creation with bool
listc = [10+10j,20+9j]  # list creation with complex
listm = [10,30,40.0,12.0,True,'Python',10+10j]
print(listi, type(listi))
print(listf, type(listf))
print(lists, type(lists))
print(listb, type(listb))
print(listc, type(listc))
print(listm, type(listm))
```

```
[1, 2, 3, 4, 5, 6, 7, 8] <class 'list'>
[9.0, 10.0, 11.0] <class 'list'>
['Hello', 'python'] <class 'list'>
[True, False] <class 'list'>
[(10+10j), (20+9j)] <class 'list'>
[10, 30, 40.0, 12.0, True, 'Python', (10+10j)] <class 'list'>
```

In [9]:
```
listm.append(False) # to add elements we use append()
listm
```

Out[9]: [10, 30, 40.0, 12.0, True, 'Python', (10+10j), False, False]

In [10]:
```
listm.append(10,30)  # we cant add 2 elements at a time with append
listm
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[10], line 1
----> 1 listm.append(10,30)
      2 listm

TypeError: list.append() takes exactly one argument (2 given)
```

In [11]:
```
listc.clear() #to clear the elements in list will use clear()
listc
```

Out[11]: []

In [13]:
```
listm = listi.copy() #to copy we use copy()
listm
```

Out[13]:
```
[1, 2, 3, 4, 5, 6, 7, 8]
```

In [15]:
```
listm.count(1) # to count how many elements we have in list with sa
```

Out[15]:
```
1
```

In [17]:
```
listm.extend(listf) # to extend elements from other list to current
listm
```

Out[17]:
```
[1, 2, 3, 4, 5, 6, 7, 8, 1, 2, 3, 4, 5, 6, 7, 8, 9.0, 10.0, 11.0]
```

In [21]:
```
listm.index(2) # to locate index position we use list.index()
```

Out[21]:
```
1
```

In [28]:
```
listm.insert(2,False) # to insert elements we use list.insert(index
print(listm,end= ' ' )
```

```
[1, 3, False, False, 3, 2, 3, 4, 5, 6, 7, 8, 2, 2, 1, 2, 3, 4, 5, 6,
7, 8, 9.0, 10.0, 11.0]
```

In [30]:
```
listm.pop() # by default to remove last element in list we use list
listm
```

Out[30]:
```
[1, 3, False, False, 3, 2, 3, 4, 5, 6, 7, 8, 2, 2, 1, 2, 3, 4, 5,
6, 7, 8, 9.0]
```

In [35]:
```
listm.remove(False) #to remove specific element in list we use list
listm
```

Out[35]:
```
[3, False, 3, 2, 3, 4, 5, 7, 8, 2, 2, 1, 2, 3, 4, 5, 6, 7, 8, 9.0]
```

In [36]:
```
listm.reverse() #to reverse list we use list.reserve()
listm
```

Out[36]:
```
[9.0, 8, 7, 6, 5, 4, 3, 2, 1, 2, 2, 8, 7, 5, 4, 3, 2, 3, False, 3]
```

In [38]:
```
listm.sort() # sorting numbers be default ascending order list.sort
listm
```

Out[38]:
```
[False, 1, 2, 2, 2, 2, 3, 3, 3, 3, 4, 4, 5, 5, 6, 7, 7, 8, 8, 9.0]
```

In [39]:
```
listm.sort(reverse = True) # to descending order we have to use lis
listm
```

Out[39]:
```
[9.0, 8, 8, 7, 7, 6, 5, 5, 4, 4, 3, 3, 3, 3, 2, 2, 2, 2, 1, False]
```

In [40]:
```
list = [1,2,3,4,5,['a','b','c','d'],[False,True],[11.11,22.22]] #cr
list
```

Out[40]:
```
[1, 2, 3, 4, 5, ['a', 'b', 'c', 'd'], [False, True], [11.11, 22.2
2]]
```

In [41]:
```
list[::] # to view complete list usind indexing & slicing
```

Out[41]:
```
[1, 2, 3, 4, 5, ['a', 'b', 'c', 'd'], [False, True], [11.11, 22.2
2]]
```

In [43]:
```
list[7] #list with start
```

Out[43]:
```
[11.11, 22.22]
```

In [44]:
```
list[0:6] # to view start and stop
```

Out[44]:
```
[1, 2, 3, 4, 5, ['a', 'b', 'c', 'd']]
```

In [45]:
```
list[0:6:2] # start stop step
```

Out[45]:
```
[1, 3, 5]
```

In [46]:
```
list[::2] # complete list with step
```

Out[46]:
```
[1, 3, 5, [False, True]]
```

In [47]:
```
list
```

Out[47]:
```
[1, 2, 3, 4, 5, ['a', 'b', 'c', 'd'], [False, True], [11.11, 22.2
2]]
```

In [49]:
```
list.index(1)
```

Out[49]:
```
0
```

In [50]:
```
list1 = listi + lists #joining list
list1
```

Out[50]:
```
[1, 2, 3, 4, 5, 6, 7, 8, 'Hello', 'python']
```

In [51]:
```
'Hello' in list1 #membership
```

Out[51]:
```
True
```

In [53]:
```
for i in list1:        #print data by using for loop
    print(i, end = ' ')
```

```
1 2 3 4 5 6 7 8 Hello python
```

In [55]:
```
for i in enumerate(list1):   #print data by using enumerate(index,e
    print(i)
```

```
(0, 1)
(1, 2)
(2, 3)
(3, 4)
(4, 5)
(5, 6)
(6, 7)
(7, 8)
(8, 'Hello')
(9, 'python')
```

In [56]:
```
all(list1)  #ALL/ANY
```

Out[56]: True

In [57]:
```
any(list1)
```

Out[57]: True

In [58]:
```
list1.append(0)
list1
```

Out[58]: [1, 2, 3, 4, 5, 6, 7, 8, 'Hello', 'python', 0]

In [59]:
```
any(list1)
```

Out[59]: True

In [60]:
```
all(list1) # in list with 0 element it will show False
```

Out[60]: False

In [ ]:

In [ ]:

In [ ]:

In [ ]:

In [ ]: