In [ ]:
```
#list bnana sikhengege.list me string ,integer sb kuch store kr skte hai
l=[1,2,3456,34.45,"Rishi",True,5+7j]
```

In [4]:
```
type(l)
```

Out[4]: list

In [5]:
```
l[1]
```

Out[5]: 2

In [6]:
```
l[0]
```

Out[6]: 1

In [7]:
```
l[5]
```

Out[7]: True

In [8]:
```
l[4]
```

Out[8]: 'Rishi'

In [11]:
```
l[0:5]
```

Out[11]: [1, 2, 3456, 34.45, 'Rishi']

In [14]:
```
l[-1]
```

Out[14]: (5+7j)

In [15]:
```
#list ko revrse krna hai
l[::-1]
```

Out[15]: [(5+7j), True, 'Rishi', 34.45, 3456, 2, 1]

In [16]:
```
#jump
l[::2]
```

Out[16]: [1, 3456, 'Rishi', (5+7j)]

In [17]:
```
l
```

Out[17]: [1, 2, 3456, 34.45, 'Rishi', True, (5+7j)]

In [18]:
```
#cant add list and string
s="pwskills"
l+s
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[18], line 2
      1 s="pwskills"
----> 2 l+s

TypeError: can only concatenate list (not "str") to list
```

In [19]:
```
list(s)
```

Out[19]:
```
['p', 'w', 's', 'k', 'i', 'l', 'l', 's']
```

In [20]:
```
l
```

Out[20]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j)]
```

In [25]:
```
#list ke andr string aur string ke nadr se kuch nkalna ho.double sq. bracket ka use
l[4][0:3]
```

Out[25]:
```
'Ris'
```

In [26]:
```
l+5
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[26], line 1
----> 1 l+5

TypeError: can only concatenate list (not "int") to list
```

In [27]:
```
l1=[3,4,5]
l+l1
```

Out[27]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j), 3, 4, 5]
```

In [28]:
```
l1*3
```

Out[28]:
```
[3, 4, 5, 3, 4, 5, 3, 4, 5]
```

In [30]:
```
l
```

Out[30]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j)]
```

In [31]:
```
len(l)
```

Out[31]:
```
7
```

In [32]:
```
#kisi function ko last me add krna ho tb
l.append(5)
```

In [33]:
```
l
```

Out[33]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j), 5]
```

In [34]:
```
s
```

Out[34]:
```
'pwskills'
```

In [35]:
```
#ab agr is s ko bhi add krna ho
l.append(s)
```

In [36]:
```
l
```

Out[36]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j), 5, 'pwskills']
```

In [37]:
```
l1
```

Out[37]:
```
[3, 4, 5]
```

In [38]:
```
#list ke andr list ko add kr rhe hai
l.append(l1)
```

In [39]:
```
l
```

Out[39]:
```
[1, 2, 3456, 34.45, 'Rishi', True, (5+7j), 5, 'pwskills', [3, 4, 5]]
```

In [43]:
```
l[-1][0:2]
```

Out[43]:
```
[3, 4]
```

In [44]:
```
l.extend(4)
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[44], line 1
----> 1 l.extend(4)

TypeError: 'int' object is not iterable
```

In [45]:
```
#iterable mtlb jisme data ke NDR DATA HO
l.extend("Rishi")
```

In [46]:
```
l
```

Out[46]:
```
[1,
 2,
 3456,
 34.45,
 'Rishi',
 True,
 (5+7j),
 5,
 'pwskills',
 [3, 4, 5],
 'R',
 'i',
 's',
 'h',
 'i']
```

In [1]:
```
l.extend[3,4,5]
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[1], line 1
----> 1 l.extend[3,4,5]

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

In [4]:
```
l1=[3,4,5]
```

In [5]:
```
l1
```

Out[5]:
```
[3, 4, 5]
```

In [6]:
```
#jb data ko bich me dalna ho.2 yha basically position ko btata hai jha pe insert kr
l1.insert(2,"Rishi")
```

In [7]:
```
l1
```

Out[7]:
```
[3, 4, 'Rishi', 5]
```

In [10]:
```
l1.insert(4,[1,2,3])
```

In [11]:
```
l1
```

Out[11]:
```
[3, 4, [1, 2, 3], 'Rishi', [1, 2, 3], 5]
```

In [12]:
```
l1.insert(-1,45)
```

In [13]:
```
l1
```

Out[13]:
```
[3, 4, [1, 2, 3], 'Rishi', [1, 2, 3], 45, 5]
```

In [14]:
```
l1.insert(0,47)
```

In [15]:
```
l1
```

Out[15]:
```
[47, 3, 4, [1, 2, 3], 'Rishi', [1, 2, 3], 45, 5]
```

In [16]:
```
#by default ye last medata ko nikal deta hai.check by tab.its -1 so removed from la
l1.pop()
```

Out[16]:
```
5
```

In [17]:
```
l1
```

Out[17]:
```
[47, 3, 4, [1, 2, 3], 'Rishi', [1, 2, 3], 45]
```

In [18]:
```
#pop ne 3rd wale data ko hta diya.
l1.pop(3)
```

Out[18]:
```
[1, 2, 3]
```

In [19]:
```
l1
```

Out[19]:
```
[47, 3, 4, 'Rishi', [1, 2, 3], 45]
```

In [21]:
```
#remove actually me elements ko remove krta hai
l1.remove(3)
```

In [22]:
```
l1
```

Out[22]:
```
[47, 4, 'Rishi', [1, 2, 3], 45]
```

In [23]:
```
#errror bz 234 wasnt part of original function.
l1.remove(234)
```

```
---------------------------------------------------------------------------
ValueError                                Traceback (most recent call last)
Cell In[23], line 1
----> 1 l1.remove(234)

ValueError: list.remove(x): x not in list
```

In [24]:
```
#list ke andr list remove krn ho tb
l1
```

Out[24]:
```
[47, 4, 'Rishi', [1, 2, 3], 45]
```

In [25]:
```
l1[3].remove(3)
```

In [26]:
```
l1
```

Out[26]:
```
[47, 4, 'Rishi', [1, 2], 45]
```

In [27]:
```
#string ke andr se kisi chij ko nikalna is not possible
l1[::-1]
```

Out[27]:
```
[45, [1, 2], 'Rishi', 4, 47]
```

In [28]:
```
l1
```

Out[28]:
```
[47, 4, 'Rishi', [1, 2], 45]
```

In [29]:
```
l1.reverse()
```

In [30]:
```
l1
```

Out[30]:
```
[45, [1, 2], 'Rishi', 4, 47]
```

In [31]:
```
#l1 was temporary reverse where as revese fn was actual reverse
l1
```

Out[31]:
```
[45, [1, 2], 'Rishi', 4, 47]
```

In [32]:
```
l1.sort()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[32], line 1
----> 1 l1.sort()

TypeError: '<' not supported between instances of 'list' and 'int'
```

In [35]:
```
#asscending order me pura data ko ye short kr diya
l2=[1,2,3,4,45,56,23,12,5,6]
l2.sort()
```

In [36]:
```
l2
```

Out[36]:
```
[1, 2, 3, 4, 5, 6, 12, 23, 45, 56]
```

In [37]:
```
#sorting only works for only integers or alphabets
l3=[2,"Rishi",345]
l3.sort()
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[37], line 2
      1 l3=[2,"Rishi",345]
----> 2 l3.sort()

TypeError: '<' not supported between instances of 'str' and 'int'
```

In [44]:
```
l4=["Rishi","Sudhanshu","Pwskills"]
l4.sort()
```

In [45]:
```
l4
```

Out[45]:
```
['Pwskills', 'Rishi', 'Sudhanshu']
```

In [47]:
```
#agr dscending order me sort krna ho tb
l4.sort(reverse=True)
```

In [48]:
```
l4
```

Out[48]:
```
['Sudhanshu', 'Rishi', 'Pwskills']
```

In [49]:
```
l4
```

Out[49]:
```
['Sudhanshu', 'Rishi', 'Pwskills']
```

In [52]:
```
l4.index("Rishi")
```

Out[52]:
```
1
```

In [53]:
```
#it will count ki wo string kitni baar aya
l4.count("Rishi")
```

Out[53]:
```
1
```

In [12]:
```
s="sudh"
l5= [3,4,5,6]
s[0]='a'
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[12], line 3
      1 s="sudh"
      2 l5= [3,4,5,6]
----> 3 s[0]='a'

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

In [13]:
```
l5
```

Out[13]:
```
[3, 4, 5, 6]
```

In [15]:
```
#list me simply replace ho gya
l5[0]=30
```

In [16]:
```
l5
```

Out[16]:
```
[30, 4, 5, 6]
```

In [17]:
```
#mutability means-same jgh ye index pr agr hm change kr paye for ex in list.in stri
```

In [18]:
```
s.replace('s' ,'a')
```

Out[18]:
```
'audh'
```

In [20]:
```
#tuple
t=(4,5,5.675,"Rishi",False,45+456j)
```

In [21]:
```
t
```

Out[21]: (4, 5, 5.675, 'Rishi', False, (45+456j))

In [22]:
```
type(t)
```

Out[22]: tuple

In [23]:
```
len(t)
```

Out[23]: 6

In [24]:
```
t[0]
```

Out[24]: 4

In [25]:
```
t[-1]
```

Out[25]: (45+456j)

In [26]:
```
t[::-1]
```

Out[26]: ((45+456j), False, 'Rishi', 5.675, 5, 4)

In [27]:
```
l4
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[27], line 1
----> 1 l4

NameError: name 'l4' is not defined
```

In [ ]:

In [28]:
```
l4=["Rishi","Sudhanshu","Pwskills"]
```

In [29]:
```
l4
```

Out[29]: ['Rishi', 'Sudhanshu', 'Pwskills']

In [30]:
```
l4[0]=456
```

In [31]:
```
l4
```

Out[31]: [456, 'Sudhanshu', 'Pwskills']

In [32]:
```
t
```

Out[32]: (4, 5, 5.675, 'Rishi', False, (45+456j))

In [33]:
```
t[0]="sudh"
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[33], line 1
----> 1 t[0]="sudh"

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

In [34]:
```
#tuples r also immutable like string.only lists r mutable.in strings we do assignin
```

In [35]:
```
t[::-1]
```

Out[35]:
```
((45+456j), False, 'Rishi', 5.675, 5, 4)
```

In [37]:
```
#tuple functions
t.count(5)
```

Out[37]:
```
1
```

In [38]:
```
t.index(False)
```

Out[38]:
```
4
```

In [39]:
```
#tuple and list me basically differene sq bracket ka hota hai and immutability ka
```

In [41]:
```
s1={}
type(s1)
```

Out[41]:
```
dict
```

In [42]:
```
s2={2,3,4,5,6}
```

In [43]:
```
type(s2)
```

Out[43]:
```
set
```

In [48]:
```
#error bz list cant be placed inside sets.
s3={2,3,45,4.567,True,"Rishi",4+56j,[1,2,3]}
type(s3)
s3
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[48], line 2
      1 #error bz list cant be placed inside sets.
----> 2 s3={2,3,45,4.567,True,"Rishi",4+56j,[1,2,3]}
      3 type(s3)
      4 s3

TypeError: unhashable type: 'list'
```

In [ ]:
```

```

In [46]:
```
s3={2,3,45,4.567,True,"Rishi",4+56j,(1,2,3)}
```

In [47]:
```
#here error didnt came bz we used tuple instead of lists
s3
```

Out[47]:
```
{(1, 2, 3), (4+56j), 2, 3, 4.567, 45, 'Rishi', True}
```

In [51]:
```
#set basically gives unique values.it removes duplicate values
s4={3,4,5,4,3,2,1,2,3,4,5,"Rishi","Sudhanshu"}
```

In [52]:
```
s4
```

Out[52]:
```
{1, 2, 3, 4, 5, 'Rishi', 'Sudhanshu'}
```

In [53]:
```
l6=[2,3,4,5,6,3,4,5,3,4,5,"Rishi","Rishi"]
```

In [54]:
```
type(l6)
```

Out[54]:
```
list
```

In [55]:
```
# we typecasted list into set.so all the duplicates disappeared.
set(l6)
```

Out[55]:
```
{2, 3, 4, 5, 6, 'Rishi'}
```

In [57]:
```
l6=[set(l6)]
```

In [58]:
```
l6
```

Out[58]:
```
[{2, 3, 4, 5, 6, 'Rishi'}]
```

In [59]:
```
s5={2,3,4,345,45,4567,3,34,"Rishi",3,4,56}
```

In [60]:
```
s5
```

Out[60]:
```
{2, 3, 34, 345, 4, 45, 4567, 56, 'Rishi'}
```

In [62]:
```
#in sets slicing and all that operations doesnt work
s5[0]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[62], line 1
----> 1 s5[0]

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

In [63]:
```
s5[::-1]
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
Cell In[63], line 1
----> 1 s5[::-1]

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

In [65]:
```
s5.add(4)
```

In [66]:
```
s5
```

Out[66]:
```
{2, 3, 34, 345, 4, 45, 4567, 56, 'Rishi'}
```

In [67]:
```
s5.remove(34)
```

In [68]:
```
s5
```

Out[68]:
```
{2, 3, 345, 4, 45, 4567, 56, 'Rishi'}
```

In [ ]:

In [ ]: