

day-4

October 4, 2024

- 1 List
- 2 List Vs Array
- 3 create
- 4 Access
- 5 Edit
- 6 Add
- 7 Delete
- 8 operator
- 9 Function

```
[46]: #Edit  
L=[1,2,3,4]  
L
```

```
[46]: [1, 2, 3, 4]
```

```
[47]: L[0]=200  
L
```

```
[47]: [200, 2, 3, 4]
```

```
[48]: L[-1]=500  
L
```

```
[48]: [200, 2, 3, 500]
```

```
[49]: L[4]=400  
L
```

```
-----
IndexError                                Traceback (most recent call last)
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\3982338871.py in <module>
----> 1 L[4]=400
      2 L

IndexError: list assignment index out of range
```

```
[50]: L[1:3]=[200,300,400]
      L
```

```
[50]: [200, 200, 300, 400, 500]
```

```
[51]: L
```

```
[51]: [200, 200, 300, 400, 500]
```

```
[52]: L4=[1,2,3,4]
      L4
```

```
[52]: [1, 2, 3, 4]
```

```
[18]: #Add
      #append # extend # insert
      L4
```

```
[18]: [1, 2, 3, 4]
```

```
[53]: L4.append(2000)
      L4
```

```
[53]: [1, 2, 3, 4, 2000]
```

```
[54]: L4.append("Dr. safdar sardar khan")
      L4
```

```
[54]: [1, 2, 3, 4, 2000, 'Dr. safdar sardar khan']
```

```
[55]: L4.extend([5000,6000,7000])
      L4
```

```
[55]: [1, 2, 3, 4, 2000, 'Dr. safdar sardar khan', 5000, 6000, 7000]
```

```
[56]: L4.append([5,6])
      L4
```

```
[56]: [1, 2, 3, 4, 2000, 'Dr. safdar sardar khan', 5000, 6000, 7000, [5, 6]]
```

```
[57]: L4.insert(1,'world')
      L4
```

```
[57]: [1, 'world', 2, 3, 4, 2000, 'Dr. safdar sardar khan', 5000, 6000, 7000, [5, 6]]
```

```
[58]: L4.insert([2:4] ='H','T')
      L4
```

```
File "C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1476153270.py", line 1
    L4.insert([2:4] ='H','T')
              ~
SyntaxError: invalid syntax
```

```
[59]: #Delete
      #del #remove # pop # clean
      L2=[2,3,4,5]
      L2
```

```
[59]: [2, 3, 4, 5]
```

```
[60]: del L2
```

```
[61]: L2
```

```
-----
NameError                                Traceback (most recent call last)
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\2622209576.py in <module>
----> 1 L2

NameError: name 'L2' is not defined
```

```
[62]: L
```

```
[62]: [200, 200, 300, 400, 500]
```

```
[63]: del L[0]
```

```
[64]: L
```

```
[64]: [200, 300, 400, 500]
```

```
[67]: del L[-1]
      L
```

```
-----  
IndexError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1358440831.py in <module>  
----> 1 del L[-1]  
      2 L  
  
IndexError: list assignment index out of range
```

```
[66]: del L[-3:]  
L
```

```
[66]: []
```

```
[73]: L2=[2,3,4,5]  
L2
```

```
[73]: [2, 3, 4, 5]
```

```
[74]: L2.remove(4)  
L2
```

```
[74]: [2, 3, 5]
```

```
[37]: L.remove(400)  
L
```

```
[37]: [200, 300, 200]
```

```
[38]: L.remove(400)  
L
```

```
-----  
ValueError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\2634211305.py in <module>  
----> 1 L.remove(400)  
      2 L  
  
ValueError: list.remove(x): x not in list
```

```
[25]: L.remove('world')  
L
```

```
[25]: [200, 300, 400, 1000, 'safdar']
```

```
[75]: L5=[2,3,4,5]  
L5
```

```
[75]: [2, 3, 4, 5]
```

```
[76]: L5
```

```
[76]: [2, 3, 4, 5]
```

```
[77]: L5.pop()
```

```
[77]: 5
```

```
[78]: L5.pop()
```

```
[78]: 4
```

```
[29]: L.pop()
```

```
[29]: 1000
```

```
[30]: L
```

```
[30]: [200, 300, 400]
```

```
[33]: L.pop(0)
```

```
[33]: 200
```

```
[79]: L5
```

```
[79]: [2, 3]
```

```
[82]: L5.clear()  
L5
```

```
[82]: []
```

```
[83]: L5
```

```
[83]: []
```

```
[84]: L=[1,2,3,4]  
L1=[5,6,7,8]  
L2=[9,8,10]
```

```
[85]: L + L1 + L2
```

```
[85]: [1, 2, 3, 4, 5, 6, 7, 8, 9, 8, 10]
```

```
[86]: L * 3
```

```
[86]: [1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4]
```

```
[87]: for i in L:  
      print(i)
```

```
1  
2  
3  
4
```

```
[88]: L3=[1,2,3,[4,5]]
```

```
[89]: for i in L3:  
      print(i)
```

```
1  
2  
3  
[4, 5]
```

```
[90]: L
```

```
[90]: [1, 2, 3, 4]
```

```
[91]: 5 in L
```

```
[91]: False
```

```
[92]: 2 in L
```

```
[92]: True
```

```
[97]: # function  
      L =[100,1,2,3,400,5,6]  
      L
```

```
[97]: [100, 1, 2, 3, 400, 5, 6]
```

```
[96]: len(L)
```

```
[96]: 9
```

```
[98]: min(L)
```

[98]: 1

```
[99]: max(L)
```

[99]: 400

```
[100]: sorted(L)
```

[100]: [1, 2, 3, 5, 6, 100, 400]

```
[101]: sorted(L,reverse = True)
```

[101]: [400, 100, 6, 5, 3, 2, 1]

```
[102]: L[1]
```

[102]: 1

```
[103]: L.reverse()
```

```
[104]: L
```

[104]: [6, 5, 400, 3, 2, 1, 100]

```
[105]: L[0]
```

[105]: 6

```
[106]: L.sort()
```

```
L
```

[106]: [1, 2, 3, 5, 6, 100, 400]

```
[107]: L[1]
```

[107]: 2

```
[110]: L.sort(reverse = True)
```

```
L
```

[110]: [400, 100, 6, 5, 3, 2, 1]

```
[111]: L[-1]
```

[111]: 1

```
[112]: L
```

```
[112]: [400, 100, 6, 5, 3, 2, 1]
```

```
[117]: L.index(100)
```

```
[117]: 1
```

```
[119]: 'how are you sir'.title()
```

```
[119]: 'How Are You Sir'
```

```
[120]: L1=[1,1,2,2,3,3,4,4]
L1
```

```
[120]: [1, 1, 2, 2, 3, 3, 4, 4]
```

```
[122]: for i in L1:
        if i not in L1:
            L1.append(i)
        print(L1)
```

```
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
[1, 1, 2, 2, 3, 3, 4, 4]
```

```
[107]: L1
```

```
[107]: [1, 1, 2, 2, 3, 3, 4, 4]
```

```
[124]: L=[]
        for i in L1:
            if i not in L:
                L.append(i)
        print(L)
```

```
[1, 2, 3, 4]
```


10 Tuples

11 create

12 Access

13 Edit

14 Add

15 Delete

16 operator

17 Function

```
[153]: #create  
T1=()  
T1
```

```
[153]: ()
```

```
[154]: T2=(1,2,3,4,5,6)  
T2
```

```
[154]: (1, 2, 3, 4, 5, 6)
```

```
[157]: T3=('Hello',4,6.6,5+4j)  
T3
```

```
[157]: ('Hello', 4, 6.6, (5+4j))
```

```
[158]: T4=(1,2,3,(4,5))  
  
T4[-1][0]
```

```
[158]: 4
```

```
[159]: type(T4)
```

```
[159]: tuple
```

```
[160]: type(T3)
```

```
[160]: tuple
```

```
[161]: T5=(1,)
      T5
```

```
[161]: (1,)
```

```
[162]: type(T5)
```

```
[162]: tuple
```

```
[163]: T6=tuple('goaaa')
      T6
```

```
[163]: ('g', 'o', 'a', 'a', 'a')
```

```
[164]: T7=tuple([1,2,3,[4,5]])
      T7
```

```
[164]: (1, 2, 3, [4, 5])
```

```
[165]: #access
      T2
```

```
[165]: (1, 2, 3, 4, 5, 6)
```

```
[166]: T2[4]
```

```
[166]: 5
```

```
[167]: T2[3:]
```

```
[167]: (4, 5, 6)
```

```
[168]: #Edit
      T2
```

```
[168]: (1, 2, 3, 4, 5, 6)
```

```
[169]: T2[2:3]
```

```
[169]: (3,)
```

```
[170]: T2[0]=100
```

```
-----
TypeError                                Traceback (most recent call last)
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1909625086.py in <module>
----> 1 T2[0]=100
```

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

```
[171]: T2
```

```
[171]: (1, 2, 3, 4, 5, 6)
```

```
[172]: del T2[-1]
```

```
-----  
TypeError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\2912519568.py in <module>  
----> 1 del T2[-1]
```

```
TypeError: 'tuple' object doesn't support item deletion
```

```
[173]: T3
```

```
[173]: ('Hello', 4, 6.6, (5+4j))
```

```
[174]: del T3
```

```
[175]: T3
```

```
-----  
NameError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\2932111001.py in <module>  
----> 1 T3
```

```
NameError: name 'T3' is not defined
```

```
[176]: T2
```

```
[176]: (1, 2, 3, 4, 5, 6)
```

```
[177]: T3=(5,6,7,8)  
T3
```

```
[177]: (5, 6, 7, 8)
```

```
[178]: T3 + T2
```

```
[178]: (5, 6, 7, 8, 1, 2, 3, 4, 5, 6)
```

```
[179]: T2 * 3
```

[179]: (1, 2, 3, 4, 5, 6, 1, 2, 3, 4, 5, 6, 1, 2, 3, 4, 5, 6)

```
[180]: #function  
len(T2)
```

[180]: 6

```
[185]: T6=(12.5,3,4,True)  
T6
```

[185]: (12.5, 3, 4, True)

```
[186]: len(T6)
```

[186]: 4

```
[187]: sum(T6)
```

[187]: 20.5

```
[181]: sum(T2)
```

[181]: 21

18 Set

```
[ ]: # set do not allow duplicates  
# set have no indexing / slicing  
# set donot allow mutable data types  
# set itself is a mutable data type
```

```
[219]: S1={}  
S1
```

[219]: {}

```
[220]: type(S1)
```

[220]: dict

```
[2]: S1={1,2,3,4}  
S1
```

[2]: {1, 2, 3, 4}

```
[222]: type(S1)
```

[222]: set

```
[10]: S2={5,1,2,2,3,1,4,5,6,6,6}
      S2
```

[10]: {1, 2, 3, 4, 5, 6}

```
[11]: S3={2,4.5,True,5+4j,"hello"}
      S3
```

[11]: {(5+4j), 2, 4.5, True, 'hello'}

```
[226]: S4=[1,2,3], 'Hello'
      S4
```

```
-----
TypeError                                Traceback (most recent call last)
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\3885265436.py in <module>
----> 1 S4=[1,2,3], 'Hello'
      2 S4

TypeError: unhashable type: 'list'
```

```
[227]: S4={(1,2,3), 'Hello'}
      S4
```

[227]: {(1, 2, 3), 'Hello'}

```
[228]: S5={{1},{2}}
      S5
```

```
-----
TypeError                                Traceback (most recent call last)
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\3530752360.py in <module>
----> 1 S5={{1},{2}}
      2 S5

TypeError: unhashable type: 'set'
```

```
[229]: S1
```

[229]: {1, 2, 3, 4}

```
[230]: S1[-1]
```

```
-----  
TypeError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\387789777.py in <module>  
----> 1 S1[-1]  
  
TypeError: 'set' object is not subscriptable
```

```
[231]: S1[0]
```

```
-----  
TypeError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1819249319.py in <module>  
----> 1 S1[0]  
  
TypeError: 'set' object is not subscriptable
```

```
[232]: #edit  
S1[2]=1000
```

```
-----  
TypeError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1683999977.py in <module>  
      1 #edit  
----> 2 S1[2]=1000  
  
TypeError: 'set' object does not support item assignment
```

```
[233]: S1
```

```
[233]: {1, 2, 3, 4}
```

```
[234]: id(S1)
```

```
[234]: 2451349656736
```

```
[235]: L=list(S1)
```

```
[236]: L
```

```
[236]: [1, 2, 3, 4]
```

```
[237]: L[0]=100  
L
```

[237]: [100, 2, 3, 4]

```
[238]: S1=set(L)
```

```
[239]: S1
```

[239]: {2, 3, 4, 100}

```
[240]: id(S1)
```

[240]: 2451349658976

```
[241]: #Add  
S1
```

[241]: {2, 3, 4, 100}

```
[242]: S1.add(6)  
S1
```

[242]: {2, 3, 4, 6, 100}

```
[244]: S1.add(99)  
S1
```

[244]: {2, 3, 4, 6, 99, 100, 200}

```
[245]: id(S1)
```

[245]: 2451349658976

```
[246]: #delete  
S1
```

[246]: {2, 3, 4, 6, 99, 100, 200}

```
[247]: # set operation  
S2={3,4,5}  
S2
```

[247]: {3, 4, 5}

```
[248]: S1 - S2
```

[248]: {2, 6, 99, 100, 200}

```
[250]: S1 * 3
```

```
-----  
TypeError                                Traceback (most recent call last)  
C:\PROGRA~1\KMSpico\temp\ipykernel_14012\1009700113.py in <module>  
----> 1 S1 * 3  
  
TypeError: unsupported operand type(s) for *: 'set' and 'int'
```

```
[252]: for i in S1:  
        print(i)
```

```
2  
3  
100  
4  
6  
99  
200
```

```
[253]: 2 in S1
```

```
[253]: True
```

```
[254]: 500 in S1
```

```
[254]: False
```

19 Function

```
[3]: S1
```

```
[3]: {1, 2, 3, 4}
```

```
[4]: len(S1)
```

```
[4]: 4
```

```
[5]: min(S1)
```

```
[5]: 1
```

```
[6]: max(S1)
```

```
[6]: 4
```

```
[7]: sorted(S1)
```


[7]: [1, 2, 3, 4]

```
[8]: sorted(S1,reverse=True)
```

[8]: [4, 3, 2, 1]

```
[9]: sum(S1)
```

[9]: 10

```
[12]: S1.union(S2)
```

[12]: {1, 2, 3, 4, 5, 6}

```
[13]: S1
```

[13]: {1, 2, 3, 4}

```
[14]: S2
```

[14]: {1, 2, 3, 4, 5, 6}

```
[15]: S1.intersection(S2)
```

[15]: {1, 2, 3, 4}

```
[17]: S1.difference(S2)
```

[17]: set()

```
[18]: S2.difference(S1)
```

[18]: {5, 6}

```
[19]: S1.symmetric_difference(S2)
```

[19]: {5, 6}

```
[20]: S1
```

[20]: {1, 2, 3, 4}

```
[21]: S2
```

[21]: {1, 2, 3, 4, 5, 6}

```
[22]: S2.symmetric_difference(S1)
```

[22]: {5, 6}

[23]: `S1.isdisjoint(S2)`

[23]: False

[24]: `S3={10}`

[25]: `S1.isdisjoint(S3)`

[25]: True

[26]: `S1.issubset(S2)`

[26]: True

[27]: `S2.issubset(S1)`

[27]: False

[279]: `S4={2}`

[280]: `S4.issubset(S1)`

[280]: True

[281]: `S1.issubset(S4)`

[281]: False

[]: