LIST TASK PRACTICE

```
In [1]:  print(type(list))

<class 'type'>
```

```
In [3]:  print(type([]))

<class 'list'>
```

```
In [4]:  list

Out[4]:  list
```

```
In [6]:  l1=[] #empty
         l2=[10,20,30,40,50]              # int
         l3=[10.5,20.3,30.6,40.8]          # float
         l4=['one', 'two', 'three', 'four'] # string
         l5=[10, 2.5, 'srikar']       # mixed data type
         l6=['srikar', [10,20],{'hi', 'bye'}] # nested
```

```
In [7]:  print(l1)
         print(l2)
         print(l3)
         print(l4)
         print(l5)
         print(l6)

[]
[10, 20, 30, 40, 50]
[10.5, 20.3, 30.6, 40.8]
['one', 'two', 'three', 'four']
[10, 2.5, 'srikar']
['srikar', [10, 20], {'bye', 'hi'}]
```

```
In [8]:  len(l6) # length

Out[8]:  3
```

list indexing---> forward and backward

```
In [10]:  l2

Out[10]:  [10, 20, 30, 40, 50]
```

```
In [13]:  print(l2[2])
          print(l2[0:3])
          print(l2[:3])
          print(l2[3:])
          print(l2[0:4:2])
          print(l2[::2])
          print(l2[::-1])
```

```
30
[10, 20, 30]
[10, 20, 30]
[40, 50]
[10, 30]
[10, 30, 50]
[50, 40, 30, 20, 10]
```

list append, remove, insert, pop, clear,

```
In [14]:  mylist =[1,2,3,4,5,6,7]
          mylist
```

Out[14]: `[1, 2, 3, 4, 5, 6, 7]`

```
In [15]:  mylist.append(8)
          mylist
```

Out[15]: `[1, 2, 3, 4, 5, 6, 7, 8]`

```
In [16]:  mylist.insert(8,'nine')
          mylist
```

Out[16]: `[1, 2, 3, 4, 5, 6, 7, 8, 'nine']`

```
In [17]:  mylist.remove(2)
          mylist
```

Out[17]: `[1, 3, 4, 5, 6, 7, 8, 'nine']`

```
In [18]:  mylist.pop(7)
```

Out[18]: `'nine'`

```
In [19]:  mylist
```

Out[19]: `[1, 3, 4, 5, 6, 7, 8]`

```
In [20]:  mylist.insert(1,2)
          mylist
```

Out[20]: `[1, 2, 3, 4, 5, 6, 7, 8]`

```
In [22]:  mylist[0]='one'
          mylist[1]='two'
          mylist
```

Out[22]: `['one', 'two', 3, 4, 5, 6, 7, 8]`

```
In [23]:  mylist.clear()
          mylist
```

Out[23]: `[]`

copy list--- copy is differnt from =, it creats new address

```
In [24]:  mylist =[1,2,3,4,5,6,7]
          mylist
```

Out[24]: [1, 2, 3, 4, 5, 6, 7]

```
In [25]:  mylist1 = mylist
          mylist2 = mylist.copy()
```

```
In [26]:  print(id(mylist))
          print(id(mylist1))
          print(id(mylist2))
```

2438966912704
2438966912704
2438966943232

```
In [27]:  mylist[0]='one'
```

```
In [28]:  print(mylist)
          print(mylist1)
          print(mylist2)
```

['one', 2, 3, 4, 5, 6, 7]
['one', 2, 3, 4, 5, 6, 7]
[1, 2, 3, 4, 5, 6, 7]

Joining list--extend

```
In [29]:  print(l2)
          print(l3)
```

[10, 20, 30, 40, 50]
[10.5, 20.3, 30.6, 40.8]

```
In [34]:  l2=[10, 20, 30, 40, 50]
          l3=[10.5, 20.3, 30.6, 40.8]
          print(l2)
          print(l3)
```

[10, 20, 30, 40, 50]
[10.5, 20.3, 30.6, 40.8]

```
In [35]:  l11=l2+l3
          l2.extend(l3)
          print(l11)
          print(l2)
```

[10, 20, 30, 40, 50, 10.5, 20.3, 30.6, 40.8]
[10, 20, 30, 40, 50, 10.5, 20.3, 30.6, 40.8]

list membership

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

```
Out[36]: [10, 20, 30, 40, 50, 10.5, 20.3, 30.6, 40.8]
```

```
In [37]: print(10 in l2)
         print(60 in l2)
```

```
True
False
```

```
In [38]: if 20 in l2:
             print('20 present in l2')
         else:
             print('20 not present in l2')
```

```
20 present in l2
```

reverse and sort

```
In [39]: l2
```

```
Out[39]: [10, 20, 30, 40, 50, 10.5, 20.3, 30.6, 40.8]
```

```
In [40]: l2.reverse()
         l2
```

```
Out[40]: [40.8, 30.6, 20.3, 10.5, 50, 40, 30, 20, 10]
```

```
In [42]: l2=l2[::-1]
         l2
```

```
Out[42]: [10, 20, 30, 40, 50, 10.5, 20.3, 30.6, 40.8]
```

```
In [43]: l2.sort()
         l2
```

```
Out[43]: [10, 10.5, 20, 20.3, 30, 30.6, 40, 40.8, 50]
```

```
In [44]: l2=[10,20,30,40,50]
         l2
```

```
Out[44]: [10, 20, 30, 40, 50]
```

```
In [45]: mylist=[1,5,3,2,6]
         sorted(mylist)
```

```
Out[45]: [1, 2, 3, 5, 6]
```

```
In [46]: mylist
```

```
Out[46]: [1, 5, 3, 2, 6]
```

for in loop, count, all and any