- description : python   print
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```python
# Section04-3
#                    (       )
#        ,

print('#====        ==== #')
#                (     0,      0,      0,      0)

#
a = []
b = list()
c = [1, 2, 3, 4]
d = [10, 100, 'Pen', 'Cap', 'Plate']
e = [10, 100, ['Pen', 'Cap', 'Plate']]

#
print('#==        == #')
print('d - ', type(d), d)
print('d - ', d[1])
print('d - ', d[0] + d[1] + d[1])
print('d - ', d[-1])
print('e - ', e[-1][1])
print('e - ', list(e[-1][1]))

print()

#
print('#==          == #')
print('d - ', d[0:3])
print('d - ', d[2:])
print('e - ', e[2][1:3])

print()

#
print('#==             == #')
```

```python
print('c + d - ', c + d)
print('c * 3 - ', c * 3)
# print("c[0] + 'hi' - ",c[0] + 'hi') #          c[0]   str                    .
print("'hi' + c[0] - ", 'hi' + str(c[0]))

print()

#                     ,
print('#==              ,        == #')
c[0] = 4
print('c - ', c)
c[1:2] = ['a', 'b', 'c']
print('c - ', c)
c[1] = ['a', 'b', 'c'] #                                        2                .
print('c - ', c)
c[1:3] = []
print('c - ', c)
del c[3]
print('c - ', c)

print()

#
print('#==             == #')
a = [5, 2, 3, 1, 4]

print('a - ', a)
a.append(6)
print('a - ', a)
a.sort()
print('a - ', a)
a.reverse()
print('a - ', a)
print('a - ', a.index(5))
a.insert(2, 7)
print('a - ', a)
a.reverse()
a.remove(1) #                                    .
print('a - ', a)
print('a - ', a.pop()) #                          (      )
print('a - ', a.pop())
print('a - ', a)
print('a - ', a.count(4))
ex = [8, 9]
a.extend(ex) #                        .                         .
print('a - ', a)

print()

#      remove, pop, del
```

```python
#
print('#==          ==#')
while a:
    l = a.pop()
    print(2 is l, l)

print()

print('#====    ====#')
#            (   O,    O,    X,    X)

#
a = ()
b = (1,)
c = (1, 2, 3, 4)
d = (10, 100, 'Pen', 'Cap', 'Plate')
e = (10, 100, ('Pen', 'Cap', 'Plate'))

#
print('#==      ==#')
print('d - ', type(d), d)
print('d - ', d[1])
print('d - ', d[0] + d[1] + d[1])
print('d - ', d[-1])
print('e - ', e[-1][1])
# print('e - ', e[-1][1][4])
print('e - ', list(e[-1][1]))

print()

#
print('#==        ==#')
print('d - ', d[0:3])
print('d - ', d[2:])
print('e - ', e[2][1:3])

print()

#
print('#==     ==#')
print('c + d - ', c + d)
print('c * 3 - ', c * 3)
# print("c[0] + 'hi' - ",c[0] + 'hi')
print("'hi' + c[0] - ", 'hi' + str(c[0]))

print()

#
print('#==    ==#')
a = (5, 2, 3, 1, 4)
```

```python
print('a - ', a)
print('a - ', a.index(5))
print('a - ', a.count(4))
```

```
# = = = =          = = = = #
# = =          = = #
d -  <class 'list'> [10, 100, 'Pen', 'Cap', 'Plate']
d -  100
d -  210
d -  Plate
e -  Cap
e -  ['C', 'a', 'p']


# = =          = = #
d -  [10, 100, 'Pen']
d -  ['Pen', 'Cap', 'Plate']
e -  ['Cap', 'Plate']


# = =              = = #
c + d -  [1, 2, 3, 4, 10, 100, 'Pen', 'Cap', 'Plate']
c * 3 -  [1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4]
'hi' + c[0] -  hi1


# = =              ,          = = #
c -  [4, 2, 3, 4]
c -  [4, 'a', 'b', 'c', 3, 4]
c -  [4, ['a', 'b', 'c'], 'b', 'c', 3, 4]
c -  [4, 'c', 3, 4]
c -  [4, 'c', 3]


# = =              = = #
a -  [5, 2, 3, 1, 4]
a -  [5, 2, 3, 1, 4, 6]
a -  [1, 2, 3, 4, 5, 6]
a -  [6, 5, 4, 3, 2, 1]
a -  1
a -  [6, 5, 7, 4, 3, 2, 1]
a -  [2, 3, 4, 7, 5, 6]
a -  6
a -  5
a -  [2, 3, 4, 7]
a -  1
a -  [2, 3, 4, 7, 8, 9]


# = =          = = #
False 9
```

```
False 8
False 7
False 4
False 3
True 2

# = = = =      = = = = #
# = =       = = #
d -   <class 'tuple'> (10, 100, 'Pen', 'Cap', 'Plate')
d -   100
d -   210
d -   Plate
e -   Cap
e -   ['C', 'a', 'p']

# = =        = = #
d -   (10, 100, 'Pen')
d -   ('Pen', 'Cap', 'Plate')
e -   ('Cap', 'Plate')

# = =      = = #
c + d -  (1, 2, 3, 4, 10, 100, 'Pen', 'Cap', 'Plate')
c * 3 -  (1, 2, 3, 4, 1, 2, 3, 4, 1, 2, 3, 4)
'hi' + c[0] -  hi1

# = =      = = #
a -   (5, 2, 3, 1, 4)
a -   0
a -   1
```

Tip

, [python](#),   ,