In [5]:
```
class test():
    def show(self):
        print("Hello from outside")
class test1(test):
    def show(self):
        super().show()
        print("Hello base")
```

In [6]:
```
x=test1
x().show()
```

```
Hello from outside
Hello base
```

In [9]:
```
import numpy as np
import pandas as pd
```

In [10]:
```
a=[1,2,3,4,5,6,7,8,9]
print(type(a))
```

```
<class 'list'>
```

In [11]:
```
c=np.array(a)
```

In [12]:
```
c
```

Out[12]:
```
array([1, 2, 3, 4, 5, 6, 7, 8, 9])
```

In [13]:
```
c.ndim
```

Out[13]:
```
1
```

In [17]:
```
c=np.array(a,ndmin=2)
```

In [18]:
```
c
```

Out[18]:
```
array([[1, 2, 3, 4, 5, 6, 7, 8, 9]])
```

In [20]:
```
c=np.arange(24)
```

In [21]:
```
c.reshape(2,3,4)
```

Out[21]:
```
array([[[ 0,  1,  2,  3],
        [ 4,  5,  6,  7],
        [ 8,  9, 10, 11]],

       [[12, 13, 14, 15],
        [16, 17, 18, 19],
        [20, 21, 22, 23]]])
```

In [23]:
```
c.ndim
```

Out[23]:
```
1
```

In [27]:
```
x=c.reshape(2,3,2,2)
```

In [28]:
```
x.ndim
```

Out[28]:
```
4
```

In [30]:
```
a=np.array([[1,2],[3,4]])
b=np.array([[5,6],[7,8]])
```

In [31]:
```
a
```

Out[31]:
```
array([[1, 2],
       [3, 4]])
```

In [34]:
```
c=np.concatenate((a,b),axis=1)
```

In [35]:
```
c
```

Out[35]:
```
array([[1, 2, 5, 6],
       [3, 4, 7, 8]])
```

In [37]:
```
c=np.hstack((a,b))
```

In [38]:
```
c
```

Out[38]:
```
array([[1, 2, 5, 6],
       [3, 4, 7, 8]])
```

In [41]:
```
c=np.vstack((a,b))
```

In [42]:
```
c
```

Out[42]:
```
array([[1, 2],
       [3, 4],
       [5, 6],
       [7, 8]])
```

In [43]:
```
c=np.concatenate((a,b),axis=0)
```

In [44]:
```
c
```

Out[44]:
```
array([[1, 2],
       [3, 4],
       [5, 6],
       [7, 8]])
```

In [49]:
```
c=np.arange(1,37)
```

In [50]:
```
c
```

Out[50]:
```
array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
       18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,
       35, 36])
```

In [52]:
```
x=c.reshape(6,6)
```

In [53]:
```
x
```

Out[53]:
```
array([[ 1,  2,  3,  4,  5,  6],
       [ 7,  8,  9, 10, 11, 12],
       [13, 14, 15, 16, 17, 18],
       [19, 20, 21, 22, 23, 24],
       [25, 26, 27, 28, 29, 30],
       [31, 32, 33, 34, 35, 36]])
```

In [55]:
```
df=pd.DataFrame(x)
```

In [56]:
```
df
```

Out[56]:

	0	1	2	3	4	5
0	1	2	3	4	5	6
1	7	8	9	10	11	12
2	13	14	15	16	17	18
3	19	20	21	22	23	24
4	25	26	27	28	29	30
5	31	32	33	34	35	36

In [60]:
```
c
```

Out[60]:
```
array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
       18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,
       35, 36])
```

In [61]:
```
c
```

Out[61]:
```
array([ 1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14, 15, 16, 17,
       18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,
       35, 36])
```

In [64]:
```
x[2:5,:3]
```

Out[64]:
```
array([[13, 14, 15],
       [19, 20, 21],
       [25, 26, 27]])
```

In [65]:
```
x[1:5,2:5]
```

Out[65]:
```
array([[ 9, 10, 11],
       [15, 16, 17],
       [21, 22, 23],
       [27, 28, 29]])
```

In [66]:
```
x[[0,0,2,2,4,4],[0,2,0,2,0,2]]
```

Out[66]:
```
array([ 1,  3, 13, 15, 25, 27])
```

In [67]:
```
x[[[0,0,2],[2,2,4]],[[0,2,0],[2,0,2]]]
```

Out[67]:
```
array([[ 1,  3, 13],
       [15, 13, 27]])
```

In [68]:
```
x.ndim
```

Out[68]:
```
2
```

In [71]:
```
d=pd.DataFrame(x[[[0,0,2],[2,2,4]],[[0,2,0],[2,0,2]]])
```

In [72]:
```
d
```

Out[72]:

	0	1	2
0	1	3	13
1	15	13	27

In [73]:
```
x.shape
```

Out[73]:
```
(6, 6)
```

In [74]:
```
a
```

Out[74]:
```
array([[1, 2],
       [3, 4]])
```

In [75]:
```
b
```

Out[75]:
```
array([[5, 6],
       [7, 8]])
```

In [76]:
```
p=np.dot(a,b)
```

In [77]:
```
p
```

Out[77]:
```
array([[19, 22],
       [43, 50]])
```

In [ ]:
```

```