

```
In [2]: import numpy as np
```

```
In [23]: z=np.array([range(50)])
r=z.reshape(5,5,2)
```

```
print(r*2)
```

```
[[[ 0  2]
   [ 4  6]
   [ 8 10]
  [12 14]
  [16 18]]
```

```
[[20 22]
 [24 26]
 [28 30]
 [32 34]
 [36 38]]
```

```
[[40 42]
 [44 46]
 [48 50]
 [52 54]
 [56 58]]
```

```
[[60 62]
 [64 66]
 [68 70]
 [72 74]
 [76 78]]
```

```
[[80 82]
 [84 86]
 [88 90]
 [92 94]
 [96 98]]]
```

```
In [10]: a=np.array([1,2,3,4,5,6])
b=a.view()
b[1]=66
print(b)
```

```
[ 1 66  3  4  5  6]
```

```
In [18]: c=np.array(["2.2","3.3","4.4","6.8"] , dtype="f")
d=c.astype(int)
print(d)
e=d.astype(bool)
print (e)
```

```
[2 3 4 6]
[ True  True  True  True]
```

```
In [19]: f = np.array([12,4,5,7,8,9,6,4,])
g = f.reshape(2,2,2)
print(f)
print(g)
print(g.shape)
print(g.ndim)
```

```
[12  4  5  7  8  9  6  4]
[[[12  4]
  [ 5  7]]

 [[ 8  9]
  [ 6  4]]]
(2, 2, 2)
3
```

```
In [26]: f = np.array([12,4,5,7,8,9,6,4,])
g = f.reshape(2,2,2)
r=g.reshape(-1)

print(r)

print(r.shape)
print(r.ndim)
```

```
[12  4  5  7  8  9  6  4]
(8,)
1
```

```
In [40]: z = np.array([range(101)])  
for r in np.nditer(z[:, ::5]):  
    print(r)
```

```
0  
5  
10  
15  
20  
25  
30  
35  
40  
45  
50  
55  
60  
65  
70  
75  
80  
85  
90  
95  
100
```

```
In [42]: a = np.array([range(100)])  
for a in range(100):  
    if (a%2 == 0):  
        print(a)
```

0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
30
32
34
36
38
40
42
44
46
48
50
52
54
56
58
60
62
64
66
68
70
72
74
76
78
80
82
84
86
88
90
92
94
96
98

```
In [52]: r = np.array([range(101)])
print( r[:, ::2])
```

```
[[ 0  2  4  6  8 10 12 14 16 18 20 22 24 26 28 30 32 34
 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70
 72 74 76 78 80 82 84 86 88 90 92 94 96 98 100]]
```

```
In [54]: a=np.array([[1,2,3,4],[1,4,6,7]])
b=a.reshape(2,2,2)
c=b.reshape(-1)
for x in a:
    print(x)
```

```
[1 2 3 4]
[1 4 6 7]
```

```
In [58]: a=np.array([[1,2,3,4],[1,4,6,7]])
b=a.reshape(2,2,2)
c=b.reshape(-1)
for x in a:
    for y in x:
        print(y)
```

```
1
2
3
4
1
4
6
7
```

```
In [64]: a=np.array([[1,2,3,5],[1,4,6,4]])
b=a.reshape(2,2,2)
c=b.reshape(-1)
for x in np.nditer(a):
    print(x)
```

```
1
2
3
5
1
4
6
4
```

```
In [65]: a=np.array([[1,2,3],[1,4,6],[8,9,0]])  
b=a.reshape(3,3)  
c=b.reshape(-1)  
for x in np.nditer(a):  
    print(x)
```

```
1  
2  
3  
1  
4  
6  
8  
9  
0
```

```
In [71]: z = np.array([range(100)])  
for r in np.nditer(z[:, ::2]):  
  
    print(r)
```

0
3
6
9
12
15
18
21
24
27
30
33
36
39
42
45
48
51
54
57
60
63
66
69
72
75
78
81
84
87
90
93
96
99

```
In [76]: a=np.array([[1,2,3,5],[1,4,6,4]])
b=a.reshape(2,2,2)
c=b.reshape(-1)
z = np.array([range(100)])
print(a)
for id, x in np.ndenumerate(a):
    print(id,x)
```

```
[[1 2 3 5]
 [1 4 6 4]]
(0, 0) 1
(0, 1) 2
(0, 2) 3
(0, 3) 5
(1, 0) 1
(1, 1) 4
(1, 2) 6
(1, 3) 4
```

```
In [78]: a=np.array([[1,2,3],[1,4,6],[7,8,9]])
b=a.reshape(3,3)
c=b.reshape(-1)
z = np.array([range(100)])
print(a)
for id, x in np.ndenumerate(a):
    print(id,x)
```

```
[[1 2 3]
 [1 4 6]
 [7 8 9]]
(0, 0) 1
(0, 1) 2
(0, 2) 3
(1, 0) 1
(1, 1) 4
(1, 2) 6
(2, 0) 7
(2, 1) 8
(2, 2) 9
```

```
In [81]: g=np.array([2,4,5,7])
h=np.array([8,9,6,4])
i=np.concatenate([g,h])
print(i)
```

```
[2 4 5 7 8 9 6 4]
```



```
In [83]: g=np.array([[2,4],[5,7]])  
h=np.array([[8,9],[6,4]])  
i=np.concatenate([g,h])  
print(i)
```

```
[[2 4]  
 [5 7]  
 [8 9]  
 [6 4]]
```

```
In [85]: g=np.array([[2,4],[5,7]])  
h=np.array([[8,9],[6,4]])  
i=np.concatenate([g,h] , axis=1)  
print(i)
```

```
[[2 4 8 9]  
 [5 7 6 4]]
```

```
In [87]: g=np.array([[2,4],[5,7]])  
h=np.array([[8,9],[6,4]])  
i=np.stack([g,h] , axis=1)  
print(i)
```

```
[[[2 4]  
  [8 9]]  
  
 [[5 7]  
  [6 4]]]
```

```
In [92]: g=np.array([[2,4],[5,7]])  
h=np.array([[8,9],[6,4]])  
i=np.hstack([g,h])  
print(i)
```

```
[[2 4 8 9]  
 [5 7 6 4]]
```

```
In [91]: g=np.array([[2,4],[5,7]])  
h=np.array([[8,9],[6,4]])  
i=np.vstack([g,h])  
  
print(i)
```

```
[[2 4]  
 [5 7]  
 [8 9]  
 [6 4]]
```

In [96]:

```
g = np.array([range(8)])  
print(g)  
i= np.array_split(g,3)  
print(i)
```

```
[[0 1 2 3 4 5 6 7]]
```

```
[array([[0, 1, 2, 3, 4, 5, 6, 7]]), array([], shape=(0, 8), dtype=int32), array  
([], shape=(0, 8), dtype=int32)]
```

In []: