```python
import numpy as np


a=np.array([1,2,3,4,5])
b=np.array([6,7,8,9,9])
print(a)
print(b)
```

```
[1 2 3 4 5]
[6 7 8 9 9]
```

```python
a=np.zeros((3,3),dtype='float')
print(a)
b=np.eye(3,3)
print(b)
c=np.random.rand(3,3)
print(c)
d=np.random.randint(7,size=(3,3))
print(d)
```

```
[[0. 0. 0.]
 [0. 0. 0.]
 [0. 0. 0.]]
[[1. 0. 0.]
 [0. 1. 0.]
 [0. 0. 1.]]
[[0.98948617 0.28642373 0.30562187]
 [0.49363408 0.20372914 0.31223275]
 [0.93795989 0.16960402 0.52299406]]
[[1 5 2]
 [6 1 5]
 [0 2 3]]
```

```python
a=np.arange(1,100,2)
print(a)
b=np.linspace(1,100,5)
print(b)
c=np.array([[1,2,3,4,5],[6,7,8,9,9]])
print(c[0,:])
print(c[0:2,0:2])
```

```
[ 1  3  5  7  9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47
 49 51 53 55 57 59 61 63 65 67 69 71 73 75 77 79 81 83 85 87 89 91 93 95
 97 99]
[  1.    25.75  50.5   75.25 100.  ]
[1 2 3 4 5]
[[1 2]
 [6 7]]
```

```python
arr11 = np.array([1,2,3,4,5,6,7,8,9])
```

```python
mask = np.array([0,1,0,0,1,0,1,0,0],dtype=bool)
print(arr11[mask])
```

```
[2 5 7]
```

```python
a=np.array([[1,2,3,4,5],[6,7,8,9,10]])
s=np.sum(a,axis=0)
print(s)
p=np.prod(a,axis=0)
print(p)
mi=np.min(a)
print(mi)
si=np.sin(a)
co=np.cos(a)
ta=np.tan(a)
print(ta)
print(si)
print(co)
lo=np.log(a)
print(lo)
print(np.log(2.7))
```

```
[ 7  9 11 13 15]
[ 6 14 24 36 50]
1
[[ 1.55740772 -2.18503986 -0.14254654  1.15782128 -3.38051501]
 [-0.29100619  0.87144798 -6.79971146 -0.45231566  0.64836083]]
[[ 0.84147098  0.90929743  0.14112001 -0.7568025  -0.95892427]
 [-0.2794155   0.6569866   0.98935825  0.41211849 -0.54402111]]
[[ 0.54030231 -0.41614684 -0.9899925  -0.65364362  0.28366219]
 [ 0.96017029  0.75390225 -0.14550003 -0.91113026 -0.83907153]]
[[0.         0.69314718 1.09861229 1.38629436 1.60943791]
 [1.79175947 1.94591015 2.07944154 2.19722458 2.30258509]]
0.9932517730102834
```

```python
arr17=np.array([1,2])
arr18=np.array([1,1])
result1 = arr17 < arr18
print(result1)
```

```
[False False]
```

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