

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

1. Create an array with 0s and 1s

```
In [3]: a=np.zeros(2,dtype=np.int64)
b=np.ones(3,dtype=np.int64)
arr=np.concatenate((a,b),axis=0)
print(arr)
```

```
[0 0 1 1 1]
```

1. Create an array

```
In [4]: ar=np.array([1,2,3])
print(ar)
```

```
[1 2 3]
```

1. Create an array whose initial content is random

```
In [5]: a1=np.array([10,23,14,24,22,54,9,67])
print(np.empty(3))
```

```
[0. 0. 0.]
```

1. Create an array with range of value with even intervals

```
In [6]: a2=np.arange(0,10,+2)
print(a2)
```

```
[0 2 4 6 8]
```

1. Create an array with values that spaced linearly in a specifief interval

```
In [7]: a3=np.linspace(0,10,num=3)
print(a3)
```

```
[ 0.  5. 10.]
```

1. Access and manipulate the array

```
In [11]: a4=np.array([23,13,27,45,39,50,64,30,74,48])
print(np.sort(a4))
```

```
[13 23 27 30 39 45 48 50 64 74]
```

```
In [12]: print(a4[a4>45])
print(a4[a4%5==0])
```

```
[50 64 74 48]
[45 50 30]
```

1. Create 2-dimensional array and check the shape of an array

```
In [13]: a12=np.array([[1,2,3,4,5],[6,7,8,9,10]])
print(a12)
```

```
[[ 1  2  3  4  5]
 [ 6  7  8  9 10]]
```

```
In [14]: print(np.shape(a12))
```

```
(2, 5)
```

1. using arange() and linspace() function

```
In [24]: a5=np.arange(1,10,+4)
a6=np.linspace(1,9,num=3,dtype=np.int64)
print(a5)
print(a6)
```

```
[1 5 9]
[1 5 9]
```

1. Create an array of random values

```
In [25]: a7=np.arange(1,20,+3)
print(a7)
```

```
[ 1  4  7 10 13 16 19]
```

1. Use repeat() and tile()

```
In [26]: print(np.repeat(a5,3))
print(np.tile(a5,3))
```

```
[1 1 1 5 5 5 9 9 9]
[1 5 9 1 5 9 1 5 9]
```

1. shape and size of an array

```
In [27]: print(np.shape(a7))
print(np.size(a7))
```

```
(7,)
7
```

1. Total number of elements in an array

```
In [28]: print(np.size(a12))
```

10

1. Dimension of an array

```
In [29]: print(np.ndim(a12))
```

2

1. Reshape()

```
In [31]: a13=a12.reshape(5,2)
print(a13)
```

```
[[ 1  2]
 [ 3  4]
 [ 5  6]
 [ 7  8]
 [ 9 10]]
```

1. Null array of size 10

```
In [35]: a8=np.zeros(10)
print(np.size(a8))
```

10

1. 10 to 49 divide by 7

```
In [36]: a9=np.arange(10,49,+1)
print(a9[a9%7==0])
```

```
[14 21 28 35 42]
```

1. Two conditions

```
In [42]: a10=np.arange(1,10,+2)
print(a10[a10>5])
print(a10[a10<70])
```

```
[7 9]
[1 3 5 7 9]
```

```
In [ ]:
```