

```
In [4]: import numpy as np
list1=[10,20,30,40,50]
array1=np.array(list1)
print(array1)
```

```
[10 20 30 40 50]
```

```
In [6]: import numpy as np
list1=[[10,20,30],[40,50,60],[70,80,90]]
array1=np.array(list1)
print(array1)
```

```
[[10 20 30]
 [40 50 60]
 [70 80 90]]
```

```
In [64]: import numpy as np
array1=np.arange (1,8)
print(array1)
```

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

```
In [68]: import numpy as np
array1=np.arange(11,17).reshape((2,3))
print(array1)
```

```
[[11 12 13]
 [14 15 16]]
```

```
In [74]: import numpy as np
array1=np.arange(11,17).reshape((3,2))
print(array1)
```

```
[[11 12]
 [13 14]
 [15 16]]
```

```
In [76]: import numpy as np
array1=np.arange(11,20).reshape((3,3))
print(array1)
```

```
[[11 12 13]
 [14 15 16]
 [17 18 19]]
```

```
In [78]: import numpy as np
array1=np.zeros(4)
print(array1)
```

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

```
In [80]: import numpy as np
array1=np.zeros((4,2))
print(array1)
```

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

```
In [84]: import numpy as np
array1=np.ones((2,4))
```

```
print(array1)
```

```
[[1. 1. 1. 1.]  
 [1. 1. 1. 1.]]
```

```
In [36]: import numpy as np  
array1=np.ones(4)  
print(array1)
```

```
[1. 1. 1. 1.]
```

```
In [38]: import numpy as np  
array1=np.ones((4,2))  
print(array1)
```

```
[[1. 1.]  
 [1. 1.]  
 [1. 1.]  
 [1. 1.]]
```

```
In [48]: import numpy as np  
list1=[10,20,30,40,50]  
array1=np.array(list1)  
print(array1)  
array1.ndim
```

```
[10 20 30 40 50]
```

```
Out[48]: 1
```

```
In [46]: import numpy as np  
list1=[[10,20,30],[40,50,60],[70,80,90]]  
array1=np.array(list1)  
print(array1)  
array1.ndim
```

```
[[10 20 30]  
 [40 50 60]  
 [70 80 90]]
```

```
Out[46]: 2
```

```
In [122... import numpy as np  
array3=np.array([[[1,2,3],[4,5,6]],  
                [[7,8,9],[10,11,12]]])  
print(array3)  
array3.ndim
```

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

```
[[ 7  8  9]  
 [10 11 12]]]
```

```
Out[122... 3
```

```
In [96]: import numpy as np  
list1=[10,20,30,40,50]  
array1=np.array(list1)  
print(array1)  
array1.shape
```

```
[10 20 30 40 50]
```

Out[96]: (5,)

```
In [94]: import numpy as np
list1=[[10,20,30],[40,50,60],[70,80,90]]
array1=np.array(list1)
print(array1)
array1.shape
```

```
[[10 20 30]
 [40 50 60]
 [70 80 90]]
```

Out[94]: (3, 3)

```
In [120... import numpy as np
array3=np.array([[[1, 2, 3],[4, 5, 6]],
                 [[7,8,9],[10,11,12]]])
print(array3)
array3.shape
```

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

 [[ 7  8  9]
   [10 11 12]]]
```

Out[120... (2, 2, 3)

```
In [124... import numpy as np
list1=[10,20,30,40,50]
array1=np.array(list1)
print(array1)
array1.size
```

```
[10 20 30 40 50]
```

Out[124... 5

```
In [126... import numpy as np
list1=[[10,20,30],[40,50,60],[70,80,90]]
array1=np.array(list1)
print(array1)
array1.size
```

```
[[10 20 30]
 [40 50 60]
 [70 80 90]]
```

Out[126... 9

```
In [128... import numpy as np
array3=np.array([[[1, 2, 3],[4, 5, 6]],
                 [[7,8,9],[10,11,12]]])
print(array3)
array1.size
```

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

 [[ 7  8  9]
   [10 11 12]]]
```

Out[128... 9

```
In [130... import numpy as np
list1=[10,20,30,40,50]
array1=np.array(list1)
print(array1)
array1.dtype
```

[10 20 30 40 50]

Out[130... dtype('int32')

```
In [132... import numpy as np
list1=[[10,20,30],[40,50,60],[70,80,90]]
array1=np.array(list1)
print(array1)
array1.size
array1.dtype
```

[[10 20 30]
 [40 50 60]
 [70 80 90]]

Out[132... dtype('int32')

```
In [134... import numpy as np
array3=np.array([[[1, 2, 3],[4, 5, 6]],
                 [[7,8,9],[10,11,12]]])
print(array3)
array1.dtype
```

[[[1 2 3]
 [4 5 6]]

[[7 8 9]
 [10 11 12]]]

Out[134... dtype('int32')

```
In [136... import numpy as np
list1=[10,20,30,40,50]
array1=np.array(list1)
print(array1)
array1.itemsize
```

[10 20 30 40 50]

Out[136... 4

```
In [138... import numpy as np
list1=[[10,20,30],[40,50,60],[70,80,90]]
array1=np.array(list1)
print(array1)
array1.itemsize
```

[[10 20 30]
 [40 50 60]
 [70 80 90]]

Out[138... 4

```
In [140... import numpy as np
array3=np.array([[[1, 2, 3],[4, 5, 6]],
```

```
print(array3 [[7,8,9],[10,11,12]])  
array1.itemsize
```

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

```
[[ 7  8  9]  
 [10 11 12]]]
```

Out[140...] 4

In []: