

 jupyterlite Untitled1 Last Checkpoint: 7 minutes agoPY  
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JupyterLab Python (Pyodide)

```
[2]: import numpy as np
a=np.array([[1,2,4],[5,8,7]])
print("Array created using passed list:\n",a)
```

Array created using passed list:  
[[1 2 4]  
 [5 8 7]]

```
[4]: import numpy as np
b=np.zeros((3,4))
print("\nAn array initialized with all zeroes:\n",b)
```

An array initialized with all zeroes:  
[[0. 0. 0. 0.]  
 [0. 0. 0. 0.]  
 [0. 0. 0. 0.]]

```
[5]: import numpy as np
c=np.full((3,3),6)
print("\nAn array iniialized with all 6s.\n",c)
```

An array iniialized with all 6s.  
[[6 6 6]  
 [6 6 6]  
 [6 6 6]]

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JupyterLab Python (Pyodide)

An array initialized with all 6s.

[[6 6 6]  
[6 6 6]  
[6 6 6]][6]:  

```
import numpy as np  
d=np.random.random((2,2))  
print("\nA random array:\n",d)
```

A random array:

[[0.14737795 0.96076933]  
[0.33634231 0.79647876]][8]:  

```
import numpy as np  
e=np.arange(0,30,5)  
print("\n A sequential array with steps of 5:\n",e)
```

A sequential array with steps of 5:

[ 0 5 10 15 20 25]

[9]:  

```
import numpy as np  
arr=np.array([[1,2,3,4],[5,2,4,2],[1,2,0,1]])  
newarr=arr.reshape(4,3)  
print("\nOriginal array:\n",arr)
```



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JupyterLab ▾  Python (Pyodide) ○

```
print("\nOriginal array:\n",arr)
print("Reshaped array[4,3]:\n",newarr)
```

```
Original array:
[[1 2 3 4]
 [5 2 4 2]
 [1 2 0 1]]
Reshaped array[4,3]:
[[1 2 3]
 [4 5 2]
 [4 2 1]
 [2 0 1]]
```

```
[10]: import numpy as np
flarr=arr.flatten()
print("\nOriginal array:\n",arr)
print("Flattened array:\n",flarr)
```

```
Original array:
[[1 2 3 4]
 [5 2 4 2]
 [1 2 0 1]]
Flattened array:
[1 2 3 4 5 2 4 2 1 2 0 1]
```

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JupyterLab Python (Pyodide)

[12]: `print("\nNo. of dimensions:",arr.ndim)`

No. of dimensions: 2

[13]: `print("\nShape of array:",arr.shape)`

Shape of array: (3, 4)

[14]: `print("\nSize of array:",arr.size)`

Size of array: 12

[15]: `print("\nArray stores elements of type: ",arr.dtype)`

Array stores elements of type: int32

[16]: `newtype=arr.astype('f')  
print("\nConverted array elements:\n",newtype)  
print("Converted array type: ",newtype.dtype)`

Converted array elements:

[[1. 2. 3. 4.]  
 [5. 2. 4. 2.]

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JupyterLab Python (Pyodide)

```
[5. 2. 4. 2.]  
[1. 2. 0. 1.]]  
Converted array type: float32
```

```
[1]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
print(p[3:0:-1])
```

```
[[10 11 12]  
 [ 7  8  9]  
 [ 4  5  6]]
```

```
[2]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
print(p[2,0:2])
```

```
[7 8]
```

```
[5]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
print(p[2:,2:])
```

```
[[ 9]  
 [12]  
 [15]]
```

```
[6]: import numpy as np
```

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JupyterLab Python (Pyodide)

```
[6]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
print(p[3:,3:])
```

[]

```
[7]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
print(p[:,1])
```

[ 2 5 8 11 14]

```
[8]: import numpy as np  
p=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
c=p.astype('f')  
print(c)
```

[[ 1. 2. 3.]  
 [ 4. 5. 6.]  
 [ 7. 8. 9.]  
 [10. 11. 12.]  
 [13. 14. 15.]]

```
[9]: import numpy as np  
pp=np.array([[1,2,3],[4,5,6],[7,8,9],[10,11,12],[13,14,15]])  
c=p.astype('i')
```

