



## NumPy amin()

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**Summary:** in this tutorial, you will learn how to use the numpy `amin()` function to find the minimum element in an array.

## Introduction to the NumPy amin() function

The `amin()` function returns the minimum element of an array or minimum element along an axis. Here's the syntax of the `amin()` function:

```
numpy.amin(a, axis=None, out=None, keepdims=<no value>, initial=<no value>, where=<no value>)
```

The `min()` function is equivalent to the `min()` method of the `ndarray` object:

```
ndarray.min(axis=None, out=None, keepdims=False, initial=<no value>, where=True)
```

## NumPy amin() function examples

Let's take some examples of using the `amin()` function.

### 1) Using numpy amin() function on 1-D array example

The following example uses the numpy `amin()` function to find the minimum value in a 1-D array:

```
import numpy as np

a = np.array([1, 2, 3])
min = np.amin(a)
print(min)
```

Output:

```
1
```

How it works.

First, [create a new array](https://www.pythontutorial.net/python-numpy/create-numpy-array/) (<https://www.pythontutorial.net/python-numpy/create-numpy-array/>) that has three numbers 1, 2, and 3:

```
a = np.array([1, 2, 3])
```

Second, find the minimum number using the `amin()` function:

```
min = np.amin(a)
```

Third, display the result:

```
print(min)
```

## 2) Using numpy amin() function on multidimensional array examples

The following example uses the `amin()` function to find the minimum number in a 2-D array:

```
import numpy as np

a = np.array([
    [1, 2],
    [3, 4]
])
```

```
min = np.amin(a)
print(min)
```

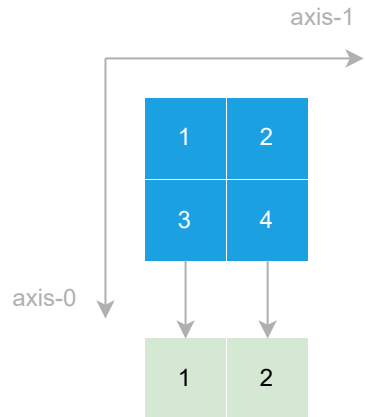
Output:

```
1
```

If you want to find the minimum value on each axis, you can use the axis argument. For example, the following uses the `amin()` function to find the minimum value on axis 0:

```
import numpy as np

a = np.array([
    [1, 2],
    [3, 4]]
)
min = np.amin(a, axis=0)
print(min)
```



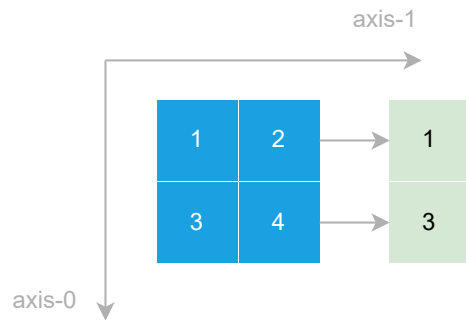
Output:

```
[1 2]
```

Similarly, you can use the `amin()` function to find the minimum value on axis 1:

```
import numpy as np

a = np.array([
    [1, 2],
    [3, 4]]
)
min = np.amin(a, axis=1)
print(min)
```



Output:

```
[1 3]
```

## Summary

- Use the numpy `amin()` function to find the minimum element in an array or minimum element along an axis.