

How can I filter a NumPy array?

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Filtering a NumPy array involves selecting specific elements from the array based on certain criteria. This can be achieved by using the built-in filter function in NumPy or by writing custom functions to apply the desired filtering conditions. The filter function takes in an array and a boolean mask as inputs and returns a new array containing only the elements that satisfy the mask. This allows for efficient and precise filtering of large arrays, making it a useful tool in data manipulation and analysis.

Filter a NumPy Array (4 Examples)

You can use the following methods to filter the values in a NumPy array:

Method 1: Filter Values Based on One Condition

```
#filter for values less than 5  
my_array
```

Method 2: Filter Values Using "OR" Condition

```
#filter for values less than 5 or greater than 9  
my_array
```

Method 3: Filter Values Using "AND" Condition

```
#filter for values greater than 5 and less than 9  
my_array
```

Method 4: Filter Values Contained in List

```
#filter for values that are equal to 2, 3, 5, or 12  
my_array)]
```

This tutorial explains how to use each method in practice with the following NumPy array:

```
import numpy as np  
  
#create NumPy array  
my_array = np.array()  
  
#view NumPy array  
my_array  
  
array()
```

Example 1: Filter Values Based on One Condition

The following code shows how to filter values in the NumPy array based on just one condition:

```
#filter for values less than 5  
my_array
```

```
array()
```

```
#filter for values greater than 5
```

```
my_array
```

```
array()
```

```
#filter for values equal to 5
```

```
my_array
```

```
array()
```

Example 2: Filter Values Using "OR" Condition

The following code shows how to filter values in the NumPy array using an "OR" condition:

```
#filter for values less than 5 or greater than 9
```

```
my_array
```

```
array()
```

Example 3: Filter Values Using "AND" Condition

The following code shows how to filter values in the NumPy array using an "AND" condition:

```
#filter for values greater than 5 and less than 9  
my_array  
  
array()
```

This filter returns the values in the NumPy array that are greater than 5 and less than 9.

Example 4: Filter Values Contained in List

The following code shows how to filter values in the NumPy array that are contained in a list:

```
#filter for values that are equal to 2, 3, 5, or 12  
my_array)]  
  
array()
```

This filter returns only the values that are equal to 2, 3, 5, or 12.

Note: You can find the complete documentation for the NumPy `in1d()` function .

Additional Resources

The following tutorials explain how to perform other

common filtering operations in Python:

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