

How can I count the number of elements equal to NaN using NumPy?

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To count the number of elements equal to NaN (Not a Number) using NumPy, one can use the function `np.isnan()` which checks if the value is NaN and returns a Boolean array. By summing up the True values in the array, the total count of NaN elements can be obtained. This method is useful for handling missing or undefined data in NumPy arrays.

NumPy: Count Number of Elements Equal to NaN

You can use the following basic syntax to count the number of elements equal to NaN in a NumPy array:

```
import numpy as np
```

```
np.count_nonzero(np.isnan(my_array))
```

This particular example will return the number of elements equal to NaN in the NumPy array called `my_array`.

The following example shows how to use this syntax in practice.

Example: Count Number of Elements Equal to NaN in NumPy Array

The following code shows how to use the `count_nonzero()` function to count the number of elements in a NumPy array equal to NaN:

```
import numpy as np
```

```
#create NumPy array  
my_array = np.array()  
  
#count number of values in array equal to NaN  
np.count_nonzero(np.isnan(my_array))
```

2

From the output we can see that 2 values in the NumPy array are equal to NaN.

We can manually look at the NumPy array to verify that there are indeed two elements equal to NaN in the array.

If you would instead like to count the number of elements *not equal to NaN*, you can use the `count_nonzero()` function as follows:

```
import numpy as np  
  
#create NumPy array  
my_array = np.array()  
  
#count number of values in array not equal to NaN  
np.count_nonzero(~np.isnan(my_array))
```

9

From the output we can see that 9 values in the NumPy array are not equal to NaN.

Note: The tilde (~) operator is used to represent the opposite of some expression. In this example, it counts the number of elements *not* equal to NaN.

The following tutorials explain how to perform other common operations in Python: