How can we sum the rows and columns of a NumPy array?

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Summing the rows and columns of a NumPy array refers to the process of calculating the total values in each row and column of the array. This can be achieved by using the built-in functions provided by NumPy, such as the sum() function. By passing in the appropriate parameters, we can easily calculate the sum of rows and columns in a NumPy array, allowing for efficient and accurate data analysis and manipulation. This method is especially useful in handling large datasets and performing mathematical operations on multidimensional arrays.

Sum the Rows and Columns of a NumPy Array

You can use the following methods to sum the rows and columns of a 2D NumPy array:

Method 1: Sum Rows of NumPy Array

arr.sum(axis=1)

Method 2: Sum Columns of NumPy Array

arr.sum(axis=0)

The following examples show how to use each method in practice with the following 2D NumPy array:

import numpy as np

#create NumPy array
arr = np.arange(18).reshape(6,3)

```
#view NumPy array
print(arr)

]
```

Example 1: Sum Rows of NumPy Array

We can use the following syntax to sum the rows of a NumPy array:

```
import numpy as np

#calculate sum of rows in NumPy array
arr.sum(axis=1)

array()
```

The resulting array shows the sum of each row in the 2D NumPy array.

For example:

The sum of values in the first row is 0 + 1 + 2 = 3.The sum of values in the first row is 3 + 4 + 5 = 12.The sum of values in the first row is 6 + 7 + 8 = 21.

And so on.

Example 2: Sum Columns of NumPy Array

We can use the following syntax to sum the columns of a NumPy array:

```
import numpy as np

#calculate sum of columns in NumPy array
arr.sum(axis=0)

array()
```

For example:

The sum of values in the first column is 0+3+6+9+12+15 = 45.The sum of values in the first row is 1+4+7+10+13+16 = 51.The sum of values in the first row is 2+5+8+11+14+17 = 57.

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

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