

How can I obtain the indices where a certain value is True using NumPy?

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The process of obtaining the indices where a certain value is True using NumPy involves using the "np.where()" function. This function takes in an array and a condition as parameters, and returns the indices where the condition is met. In the case of finding True values, the condition would be "array == True". This function is useful for locating specific values within an array and can be used in various data analysis and manipulation tasks.

NumPy: Get Indices Where Value is True

You can use the following methods to get the indices where some condition is true in NumPy:

Method 1: Get Indices Where Condition is True in NumPy Array

```
#get indices of values greater than 10  
np.asarray(my_array>10).nonzero()
```

Method 2: Get Indices Where Condition is True in NumPy Matrix

```
#get indices of values greater than 10  
np.transpose((my_matrix>10).nonzero())
```

Method 3: Get Indices Where Condition is True in Any Row of NumPy Matrix

```
#get indices of rows where any value is greater than
```

```
10np.asarray(np.any(my_matrix>10, axis=1)).nonzero()
```

The following examples show how to use each method in practice.

Example 1: Get Indices Where Condition is True in NumPy Array

The following code shows how to get all indices in a NumPy array where the value is greater than 10:

```
import numpy as np

#create NumPy array
my_array = np.array()

#get index of values greater than 10
np.asarray(my_array>10).nonzero()

(array(, dtype=int32),)
```

From the output we can see that the values in index positions 6, 7, and 9 of the original NumPy array have values greater than 10.

Example 2: Get Indices Where Condition is True in NumPy Matrix

The following code shows how to get all indices in a

NumPy matrix where the value is greater than 10:

```
import numpy as np
```

```
#create NumPy matrix
```

```
my_matrix = np.array(
```

```
,
```

```
,
```

```
])
```

```
#get index of values greater than 10
```

```
np.transpose((my_matrix>10).nonzero())
```

```
array(
```

```
,
```

```
], dtype=int32)
```

From the output we can see that the values in the following index positions of the matrix have values greater than 10:

Example 3: Get Indices Where Condition is True in Any Row of NumPy Matrix

The following code shows how to get all row indices in a NumPy matrix where the value is greater than 10 in

any element of the row:

```
import numpy as np
```

```
#create NumPy matrix
```

```
my_matrix = np.array(
```

```
,
```

```
,
```

```
])
```

```
#get index of rows where any value is greater than 10
```

```
np.asarray(np.any(my_matrix>10, axis=1)).nonzero()
```

```
(array(, dtype=int32),)
```

From the output we can see that rows 0 and 3 have at least one value greater than 10.

Note: To get indices where a condition is true in a column, use axis=0 instead.

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