NumPy Differences

‹ Previous Next ›

Differences

A discrete difference means subtracting two successive elements.

E.g. for [1, 2, 3, 4], the discrete difference would be [2-1, 3-2, 4-3] = [1, 1, 1]

To find the discrete difference, use the `diff()` function.

Example

Get your own Python Server

Compute discrete difference of the following array:

```
import numpy as np

arr = np.array([10, 15, 25, 5])

newarr = np.diff(arr)

print(newarr)
```

Try it Yourself »

We can perform this operation repeatedly by giving parameter `n`.

E.g. for [1, 2, 3, 4], the discrete difference with n = 2 would be [2-1, 3-2, 4-3] = [1, 1, 1] , then, since n=2, we will do it once more, with the new result: [1-1, 1-1] = [0, 0]

Example

Compute discrete difference of the following array twice:

```
import numpy as np

arr = np.array([10, 15, 25, 5])

newarr = np.diff(arr, n=2)

print(newarr)
```

Try it Yourself »

Returns: `[5 -30]` because: 15-10=5, 25-15=10, and 5-25=-20 AND 10-5=5 and -20-10=-30

Exercise ?

Consider the following code:

```
import numpy as np
arr = np.array([1, 2, 3, 4])
newarr = np.diff(arr)
```

What will be the result of `newarr` ?

[1 1 1]

-2

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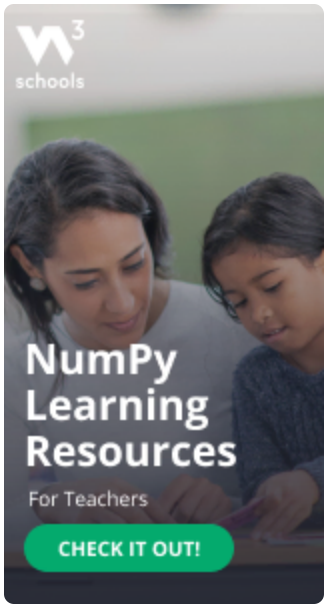
‹ Previous Next ›



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