How to Concatenate Arrays in Python (With Examples)

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The easiest way to concatenate arrays in Python is to use the **numpy.concatenate** function, which uses the following syntax:

numpy.concatenate((a1, a2, ...), axis = 0)

where:

a1, a2 ...: The sequence of arrays
axis: The axis along which the arrays will be joined. Default is 0.

This tutorial provides several examples of how to use this function in practice.

Example 1: Concatenate Two Arrays

The following code shows how to concatenate two 1-dimensional arrays:

import numpy as np

#create two arrays
arr1 = np.array()
arr2 = np.array()

#concatentate the two arrays
np.concatenate((arr1, arr2))

The following code shows how to concatenate two 2-dimensional arrays:

import numpy as np

#create two arrays
arr1 = np.array(, ,])
arr2 = np.array(])

#concatentate the two arrays
np.concatenate((arr1, arr2), axis=0)

array(,
,
,
])

#concatentate the two arrays and flatten the result

np.concatenate((arr1, arr2), axis=None)

array()

Example 2: Concatenate More Than Two Arrays

We can use similar code to concatenate more than two arrays:

import numpy as np

#create four arrays
arr1 = np.array(, ,])
arr2 = np.array(])
arr3 = np.array(])
arr4 = np.array(])

#concatentate all the arrays
np.concatenate((arr1, arr2, arr3, arr4), axis=0)

array(,
,
,
,
,
])

#concatentate all the arrays and flatten the result
np.concatenate((arr1, arr2, arr3, arr4), axis=None)

array()

The following tutorials explain how to perform similar operations in NumPy: