# Concatenate

104/115 challenges solved

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**Concatenate**

Two or more arrays can be concatenated together using the concatenate function with a tuple of the arrays to be joined:

```
import numpy

array_1 = numpy.array([1,2,3])
array_2 = numpy.array([4,5,6])
array_3 = numpy.array([7,8,9])

print numpy.concatenate((array_1, array_2, array_3))

#Output
[1 2 3 4 5 6 7 8 9]
```

If an array has more than one dimension, it is possible to specify the axis along which multiple arrays are concatenated. By default, it is along the first dimension.

```
import numpy

array_1 = numpy.array([[1,2,3],[0,0,0]])
array_2 = numpy.array([[0,0,0],[7,8,9]])

print numpy.concatenate((array_1, array_2), axis = 1)

#Output
[[1 2 3 0 0 0]
 [0 0 0 7 8 9]]
```

**Task**

You are given two integer arrays of size $N$X$P$ and $M$X$P$ ($N$ & $M$ are rows, and $P$ is the column). Your task is to concatenate the arrays along axis **0**.

**Input Format**

The first line contains space separated integers $N$, $M$ and $P$.

The next $N$ lines contains the space separated elements of the $P$ columns.

After that, the next $M$ lines contains the space separated elements of the $P$ columns.

**Output Format**

Print the concatenated array of size $(N+M)$X$P$.

**Sample Input**

```
4 3 2
1 2
1 2
1 2
1 2
3 4
```

```
3 4
3 4
```

**Sample Output**

```
[[1 2]
 [1 2]
 [1 2]
 [1 2]
 [3 4]
 [3 4]
 [3 4]]
```

Change Theme Language Python 3

```
1  import numpy
2
3
4  n, m, p = map(int, input().split())
5  arr1,arr2 = [], []
6  for _ in range(n):
7      arr1.append(list(map(int, input().split())))
8  for _ in range(m):
9      arr2.append(list(map(int, input().split())))
10
11 a1 = numpy.array(arr1)
12 a2 = numpy.array(arr2)
13 a = numpy.concatenate((a1, a2))
14 print(a)
15
```

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## Congratulations

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Next Challenge

- Test case 0
- Test case 1
- Test case 2

Compiler Message

```
Success
```

Input (stdin) Download

```
4 3 2
1 2
1 2
1 2
1 2
3 4
3 4
3 4
```