



itertools.product() ★

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itertools.product()

This tool computes the [cartesian product](#) of input iterables.

It is equivalent to nested for-loops.

For example, `product(A, B)` returns the same as `((x,y) for x in A for y in B)`.

Sample Code

```
>>> from itertools import product
>>>
>>> print list(product([1,2,3],repeat = 2))
[(1, 1), (1, 2), (1, 3), (2, 1), (2, 2), (2, 3), (3, 1), (3, 2), (3, 3)]
>>>
>>> print list(product([1,2,3],[3,4]))
[(1, 3), (1, 4), (2, 3), (2, 4), (3, 3), (3, 4)]
>>>
>>> A = [[1,2,3],[3,4,5]]
>>> print list(product(*A))
[(1, 3), (1, 4), (1, 5), (2, 3), (2, 4), (2, 5), (3, 3), (3, 4), (3, 5)]
>>>
>>> B = [[1,2,3],[3,4,5],[7,8]]
>>> print list(product(*B))
[(1, 3, 7), (1, 3, 8), (1, 4, 7), (1, 4, 8), (1, 5, 7), (1, 5, 8), (2, 3, 7), (2, 3, 8), (2, 4, 7), (2, 4, 8), (2, 5, 7), (2, 5, 8)]
```

Task

You are given a two lists **A** and **B**. Your task is to compute their cartesian product **AxB**.

Example

```
A = [1, 2]
B = [3, 4]

AxB = [(1, 3), (1, 4), (2, 3), (2, 4)]
```

Note: **A** and **B** are sorted lists, and the cartesian product's tuples should be output in sorted order.

Input Format

The first line contains the space separated elements of list **A**.

The second line contains the space separated elements of list **B**.

Both lists have no duplicate integer elements.

Constraints

$0 < A < 30$

$0 < B < 30$

Output Format

Output the space separated tuples of the cartesian product.

Sample Input

```
1 2
3 4
```

Sample Output

```
(1, 3) (1, 4) (2, 3) (2, 4)
```

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Language

Python 3



```
1 from itertools import product
2 a=list(map(int,input().split()))
3 b=list(map(int,input().split()))
4 x= (list(product(a,b)))
5 for i in x:
6     print(i,end=" ")
7
```

Line: 7 Col: 1

Upload Code as File

☐ Test against custom input

Run Code

Submit Code

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✓ Test case 0

Compiler Message

✓ Test case 1

Success

✓ Test case 2

Input (stdin)

[Download](#)

1 **1 2**

✓ Test case 3

2 **3 4**

✓ Test case 4

Expected Output

[Download](#)

1 **(1, 3) (1, 4) (2, 3) (2, 4)**

✓ Test case 5