## Problem

[itertools.product()](https://docs.python.org/2/library/itertools.html" \l "itertools.product)

This tool computes the [cartesian product](https://en.wikipedia.org/wiki/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), (3, 3, 7), (3, 3, 8), (3, 4, 7), (3, 4, 8), (3, 5, 7), (3, 5, 8)]

**Task**

You are given a two lists  and . Your task is to compute their cartesian product [X](https://en.wikipedia.org/wiki/Cartesian_product).

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

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)

## Solution

# Enter your code here. Read input from STDIN. Print output to STDOUT

from itertools import product

A = list(map(int, input().split()))

B = list(map(int, input().split()))

C = []

C.append(A)

C.append(B)

print(\*list(product(\*C))) #adding \* before list unpacks it https://stackoverflow.com/questions/8775913/is-there-a-way-to-delist-a-list-in-python