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Practice > Python > Itertools > itertools.product()

itertools.product() ☆

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Problem	Submissions	Leaderboard	Discussions	Editorial 🖰	
itertools.product()					Author
This tool computes the cartesian product of input iterables.					Difficulty
It is equivalent to nested <i>for-loops</i> .					Max Score
For example, produ	uct(A, B) returns the	same as ((x,y) for x	in A for y in B).		Submitted By
Sample Code					NEED HELP?
6					View discussions
>>> from itertools import product >>>					☐ View editorial
>>> 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)]					View top submissions
>>> >>> print list(product([1,2,3],[3,4]))					RATE THIS CHALLENGE
[(1, 3), (1, 4), (2, 3), (2, 4), (3, 3), (3, 4)] >>>					☆ ☆ ☆ ☆ ☆
>>> A = [[1,2,3],[3,4,5]] >>> print list(product(*A))					MORE DETAILS
[(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]]					Download sample test cases
>>> 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,					Suggest Edits
	8), (3, 5, 7), (3,		, (3, 3, 1), (3, 3,	, 0), (3,	f y in

You are given a two lists A and B. Your task is to compute their cartesian product $A \times B$.

Example

$$A = [1, 2]$$

$$B = [3, 4]$$

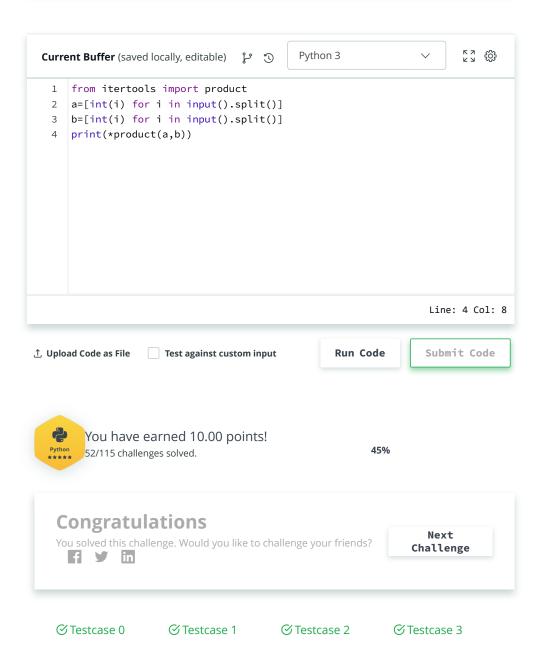
$$AxB = [(1, 3), (1, 4), (2, 3), (2, 4)]$$

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 \boldsymbol{A} .

The second line contains the space separated elements of list ${\it B}$.



6 Testcases∨



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