

# Cartesian product

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**Problem** - Given two finite non-empty sets, find their Cartesian Product.

In mathematics, specifically set theory, the Cartesian product of two sets A and B, denoted  $A \times B$ , is the set of all ordered pairs (a, b) where a is in A and b is in B

const A = [1, 2]

const B = [3, 4]

$A \times B = [ [1, 3], [1, 4], [2, 3], [2, 4] ]$

const C = [1, 2]

const D = [3, 4, 5]

$C \times D = [ [1, 3], [1, 4], [1, 5], [2, 3], [2, 4], [2, 5] ]$

# Cartesian product idea

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Traverse each array and pair each element in the first array with each element in the second array