**7 kyu**

**Number of Rectangles in a Grid**

61382% of 74341 of1,730[pj6444](https://www.codewars.com/users/pj6444)

JavaScript

* [TRAIN AGAIN](https://www.codewars.com/kata/number-of-rectangles-in-a-grid/train/javascript)
* [NEXT KATA](https://www.codewars.com/trainer/javascript)

Details

[Solutions](https://www.codewars.com/kata/number-of-rectangles-in-a-grid/solutions/javascript)

[Forks (24)](https://www.codewars.com/kata/number-of-rectangles-in-a-grid/forks/javascript)

[Discourse (23)](https://www.codewars.com/kata/number-of-rectangles-in-a-grid/discuss/javascript)

* Add to Collection
* |
* Share this kata:

Given a grid of size m x n, calculate the total number of rectangles contained in this rectangle. All integer sizes and positions are counted.

Examples:

numberOfRectangles(3, 2) == 18

numberOfRectangles(4, 4) == 100

Here is how the 3x2 grid works (Thanks to GiacomoSorbi for the idea):

1 rectangle of size 3x2:

[][][]

[][][]

2 rectangles of size 3x1:

[][][]

4 rectangles of size 2x1:

[][]

2 rectangles of size 2x2

[][]

[][]

3 rectangles of size 1x2:

[]

[]

6 rectangles of size 1x1:

[]

As you can see (1 + 2 + 4 + 2 + 3 + 6) = 18, and is the solution for the 3x2 grid.

There is a very simple solution to this!

<https://www.codewars.com/kata/number-of-rectangles-in-a-grid/javascript>

<https://www.geeksforgeeks.org/number-rectangles-nm-grid/>

# Python3 program to count number

# of rectangles in a n x m grid

def rectCount(n, m):

    return (m \* n \* (n + 1) \* (m + 1)) // 4

# Driver code

n, m = 5, 4

print(rectCount(n, m))

# This code is contributed by Anant Agarwal.