### **SIENA COLLEGE**

**28th Annual** High School Programming Contest

##### **March 27, 2015**

###### Problem #1: Be There, And Be More than Square

Background Information: On a standard 8x8 checkerboard you can identify 1,296 unique rectangles. On a

1x1 checkerboard there is just one rectangle. On a 2x2 checkerboard there are 9 unique rectangles. On a

3x3 checkerboard there are 36 unique rectangles. On a 4x4 checkerboard there are 100 unique rectangles.

On a 5x5 checkerboard there are 225 unique rectangles. On a 6x6 checkerboard there are 441 unique

rectangles. In fact, on an NxN checkerboard there are rectangles.

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###### Programming Problem:

Input:  a positive integer N less than 200, for the size of a checkerboard.

Output: the number of rectangles on the NxN checkerboard.

###### Example 1:  Input:  6

###### Output:  441

###### Example 2:  Input:  10

###### Output:  3025