

Title: Number of Diagonally Dominant Matrices.

A square matrix is known to be Diagonally dominant if and only if the absolute value of the diagonal element is larger than the absolute sum of the other row elements.

Ex:

$$A = \begin{pmatrix} -5 & -1 & 2 \\ 1 & 4 & 2 \\ 1 & -1 & 3 \end{pmatrix}$$

A Is Diagonally dominant since, $|-5| > |-1| + |2|$ (*in first row*)

$|4| > |1| + |2|$ (*in second row*)

$|3| > |-1| + |1|$ (*in third row*)

Object:

Your object is to find the number of diagonally dominant matrices that can be made of a given series of elements.

Input format

Comma-separated numbers. Which are the elements of the matrix.

ex: -5 -1 2 1 4 2 1 -1 3

Output

180

Constrains

Size of the matrix 2*2 to 4*4

Only integers

Explanation:

If the input is 0 2 1 3 then there are 24 possible matrices (4!) that can be made of those input numbers. Ex:-

$$\begin{pmatrix} 0 & 2 \\ 1 & 3 \end{pmatrix}, \begin{pmatrix} 0 & 2 \\ 3 & 1 \end{pmatrix}, \begin{pmatrix} 0 & 1 \\ 2 & 3 \end{pmatrix}, \begin{pmatrix} 0 & 1 \\ 3 & 2 \end{pmatrix}, \begin{pmatrix} 0 & 1 \\ 3 & 2 \end{pmatrix} \dots$$

But only 6 diagonally dominant matrices are possible.

$$\begin{pmatrix} 3 & 0 \\ 1 & 2 \end{pmatrix}, \begin{pmatrix} 3 & 1 \\ 0 & 2 \end{pmatrix}, \begin{pmatrix} 3 & 2 \\ 0 & 1 \end{pmatrix}, \begin{pmatrix} 2 & 1 \\ 0 & 3 \end{pmatrix}, \begin{pmatrix} 2 & 0 \\ 1 & 3 \end{pmatrix}, \begin{pmatrix} 1 & 0 \\ 2 & 3 \end{pmatrix} \text{ so the output should be 6.}$$

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