Problem H. Tetrahedrons

Input file:	tetrahedron.in
Output file:	tetrahedron.out
Time limit:	3 seconds
Memory limit:	256 mebibytes

You are given a regular tetrahedron. Each of its edges is divided into n equal segments by $n - 1$ dividing points. Consider the set M of all dividing points. How many non-degenerate tetrahedrons with vertices from M exist?

Input

The single line of the input contains one integer n ($2 \leqslant n \leqslant 4000$).

Output

In the first line of output, print the answer to the problem.

Examples

tetrahedron.in	tetrahedron.out
2	12
37	65561472