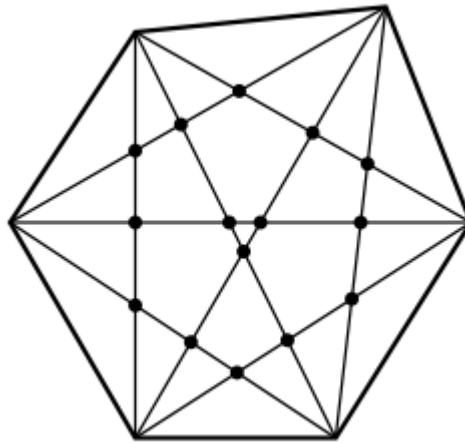


4. SJECIŠTA

Consider a convex polygon with N vertices, with the additional property that no three diagonals intersect in a single point. Find the number of intersections between pairs of diagonals in such a polygon.

The figure below shows one such polygon with 6 vertices.



Note: a polygon is convex if all of its interior angles are less than 180 degrees.

Input

The first and only line of input contains a single integer N , $3 \leq N \leq 100$.

Output

Output the number of intersections on a single line.

Sample test data

input	input	input
3	4	6
output	output	output
0	1	15