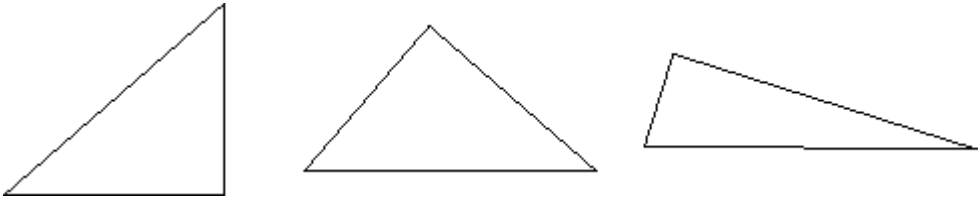


You are given n rods of length $1, 2, \dots, n$. You have to pick any 3 of them and build a triangle. How many distinct triangles can you make? Note that, two triangles will be considered different if they have at least 1 pair of arms with different length.



Input

The input for each case will have only a single positive integer n ($3 \leq n \leq 1000000$). The end of input will be indicated by a case with $n < 3$. This case should not be processed.

Output

For each test case, print the number of distinct triangles you can make.

Sample Input

5
8
0

Sample Output

3
22