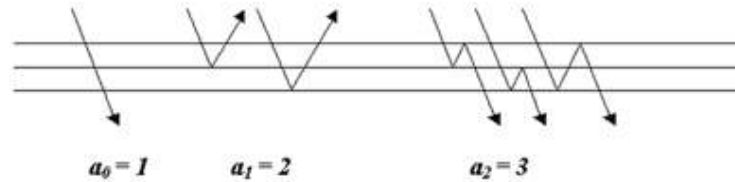


G - Ray Through Glasses

Source file name: `glasses.c`, `glasses.cpp`, or `glasses.java`

Suppose we put two panes of glass back-to-back. How many ways a_n are there for light rays to pass through or be reflected after changing direction n times?

The following figure shows the situations when the value of n is 0, 1 and 2:



Input

It is a set of lines with an integer n where $0 \leq n \leq 1000$ in each of them.

The input must be read from standard input.

Output

For every one of these integers a line containing a_n as described above.

The output must be written to standard output.

Sample Input	Sample Output
0	1
1	2
2	3