The Fibonacci Sequence

Description

The Fibonacci Sequence is a sequence of integers described by the following formula:

$$F_n = F_{n-1} + F_{n-2},$$

where

$$F_0 = 0,\ F_1 = 1.$$

For example: 0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, 233, 377, 610, 987, 1597, 2584, 4181, 6765, 10946, 17711, 28657, 46368, 75025, 121393, 196418, 317811, 514229, 832040…

In this problem you will need to calculate the nth term (zero-based numbering) in the Fibonacci sequence. For example the 7th term in the fibonacci sequence is 13. To solve this problem you will need to write a program that reads integers from standard in that are positions in the Fibonacci sequence. Your program will calculate the correct term for the nth position and print it to standard out. There will be one integer representing the nth position in the sequence per line. Your program should continue reading, calculating and printing until there is no more input. Your solution must run in under 60 seconds.

Sample Input
3
7
9
10
300
50
44

Sample Output
2
13
34
55
22223224462942044552973989346190996720666693909649976499097960 0
12586269025
701408733