1079. Maximum

Time limit: 2.0 second
Memory limit: 64 MB

Consider the sequence of numbers a_i, $i = 0, 1, 2, \ldots$, which satisfies the following requirements:

- $a_0 = 0$
- $a_1 = 1$
- $a_{2i} = a_i$
- $a_{2i+1} = a_i + a_{i+1}$

for every $i = 1, 2, 3, \ldots$.

Write a program which for a given value of n finds the largest number among the numbers $a_0, a_1, \ldots, a_n$.

Input

You are given several test cases (not more than 10). Each test case is a line containing an integer n ($1 \le n \le 99\,999$). The last line of input contains 0.

Output

For every n in the input write the corresponding maximum value found.

Sample

input	output
5 10 0	3 4

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