Recursion [0]

time limit per test: 1 second
memory limit per test: 256 megabytes
input: standard input
output: standard output

points: 100 · problem code: recursion0 · author: glipR

In this problem we'll be evaluating the recursive function G, where $G(0) = 0$, $G(1) = 1$, and for anything larger:

$$G(n) = 3 \times G(n-1) + G(n-2)$$

For example, $G(2) = 3$, $G(3) = 10$, $G(4) = 33$, and so on.

Since the number computed may be large, you should compute the value modulo $10^9 + 7$

Input

Input will contain a single integer n.

Output

Output should be a single integer, $G(n) \% 10^9 + 7$.

Constraints

- $0 \leq n \leq 10^6$