A. Fibonacci

time limit per test: 0.25 seconds
memory limit per test: 256 megabytes

Find the n-th Fibonacci number modulo $10^9 + 7$.

So, you need to find F_n in the sequence defined as $F_0 = 0$, $F_1 = 1$ and $F_i = F_{i-1} + F_{i-2}$ for $i \geq 2$.

Input

An integer n ($0 \leq n \leq 10^{18}$).

Output

Print the answer modulo 1000000007.

Examples

input	Copy
3	

output	Copy
2	

input	Copy
6	

output	Copy
8	

input	Copy
50	

output	Copy
586268941	

Note

The first few terms of Fibonacci sequence are $(0, 1, 1, 2, 3, 5, 8, 13, \ldots)$. In particular, we have $F_0 = 0$, $F_3 = 2$ and $F_6 = 8$. And for the last sample test:

$$F_{50} = 12586269025 \equiv 586268941 \pmod{10^9 + 7}$$

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- Convex Hull - Preclass
- Number Theory I - Homework
- Line Sweep - Preclass
- Number Theory II - Homework
- Combinatorics - Homework
- Geometry - Preclass
- Geometry - Homework
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- Rabin Karp - Homework
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- DP TSP - Homework
- KMP - Homework
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- Number Theory I - Preclass
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- Rabin Karp - Preclass
- DP Edit Distance - Homework
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- DP TSP - Preclass
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