HOME   TOP   CATALOG   CONTESTS   GYM   PROBLEMSET   GROUPS   RATING   EDU   API   CALENDAR   HELP   RAYAN 🏆

PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   STANDINGS   CUSTOM INVOCATION

D. Pikachu the climber

time limit per test: 1 second

memory limit per test: 256 megabytes

Pikachu and Ash are training at the base of the legendary staircase. You are given an N. Pikachu starts at step 0 and wants to reach step N.

Pikachu can jump either 1 or 2 steps at a time. Formally, in one move Pikachu chooses $s \in \{1, 2\}$ and increases his current step by s.

Your task is to determine the number of distinct jump sequences that move Pikachu from step 0 to step N. Two sequences are different if they differ at any position. Output the answer modulo $10^9 + 7$.

Input

A single integer $N(1 \le N \le 10^9)$ the number of steps

Output

Print the number of distinct jump sequences modulo $10^9 + 7$

Scoring

Subtask	Constraints	Points
1	$1 \le N \le 20$	50
2	$1 \le N \le 10^5$	150
3	$1 \le N \le 10^9$	300

Examples

input

```
1
```

output

```
1
```

input

```
2
```

output

```
2
```

Note

For $N = 1$ pikachu has only one sequence $\{1\}$.

For $N = 2$ pikachu has two possible sequences $\{1,1\}$ and $\{2\}$. It can be shown that no other sequence is possible.

Submit?

Language:	Python 3.13.2

Almost always, if you send a solution on PyPy, it works much faster

Choose file:	Choose file No file chosen

Submit

Your points

	Points
A	
B	
C	
D	
E	
F	

Codemon 1

Contest is running

00:22:39

Contestant

⭐