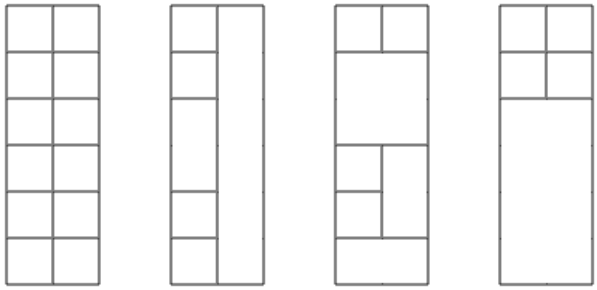
Problem F. Counting Towers

Time limit 1000 ms
Mem limit 524288 kB

Your task is to build a tower whose width is 2 and height is n. You have an unlimited supply of blocks whose width and height are integers.

For example, here are some possible solutions for $n = 6$:



Given n, how many different towers can you build? Mirrored and rotated towers are counted separately if they look different.

Input

The first input line contains an integer t: the number of tests.

After this, there are t lines, and each line contains an integer n: the height of the tower.

Output

For each test, print the number of towers modulo $10^9 + 7$.

Constraints

- $1 \leq t \leq 100$
- $1 \leq n \leq 10^6$

Sample

Input	Output
3 2 6 1337	8 2864 640403945