Fibonacci LCM

After Derek (of district 5) discovered how to compute the greatest common divisor (gcd) of Fibonacci numbers, he now tried to answer the next obvious question: how does one compute the *least common multiple* (lcm) of Fibonacci numbers? Unfortunately, Derek found out that this wasn't as easy as the original problem, so he asked you to answer it for him.

The Fibonacci numbers are defined as:

$$F_1 = F_2 = 1$$

$$F_n = F_{n-1} + F_{n-2}$$

Given N integers $a_1, a_2, \ldots, a_N$, find $\operatorname{lcm}(F_{a_1}, F_{a_2}, \ldots, F_{a_N})$, and give your answer modulo $10^9 + 7$.

Input Format

The first line of input contains N.
Each of the next N lines contains a number: the i^{th} line contains a_i.

Constraints

$1 \leq N \leq 100$
$1 \leq a_i \leq 10^9$

Output Format

Print a single integer, which is the least common multiple of the F_{a_i}, modulo $10^9 + 7$.

Sample Input

```
5
1
3
3
6
9
```

Sample Output

```
136
```

Explanation

$\operatorname{lcm}(F_1, F_3, F_3, F_6, F_9) = \operatorname{lcm}(1, 2, 2, 8, 34) = 136$