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 $\mathrm{lcm}(F_{a_1},F_{a_2},\ldots,F_{a_N})$, 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 $i^{
m th}$ line contains a_i .

Constraints

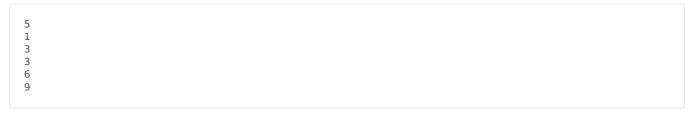
 $1 \le N \le 100$

 $1 \leq a_i \leq 10^9$

Output Format

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

Sample Input



Sample Output

136

Explanation

 $lcm(F_1, F_3, F_3, F_6, F_9) = lcm(1, 2, 2, 8, 34) = 136$