

GIFT DISTRIBUTION

In a party Mr. Freddy greeted his guests by giving gift wrapped in either Blue or Red. From the first guest if he gives red one, he has a compulsion to necessarily greet with Red gift to every alternate guest from the first greeted guest i.e. if the guests are $G_1, G_2, \dots, G_i, G_i + 1, \dots, G_n$ and if he first greets with Red gift G_i then he must necessarily greet with Red $G_i + 2, G_i + 4, G_i + 6 \dots$ till the last possible guest. But there is no restriction if he is giving gift wrapped in Blue. Your task is to determine in how many ways he can greet N guests.

Input

First line of the input contains T ($T = 1000$) denoting the number of test cases.

T lines follow each containing a single integer N ($1 \leq N \leq 10^9$) denoting the number of guests.

Output

For each case the output should be a single integer representing the number of ways Freddy can greet N guests. As the answer can be large print it modulo 1000000007.

Example

Input

3
1
2
3

Output

2
4
6

Explanation:

In the first case the possible ways are

R, B

Second case:

RB, BR, BB, RR

Third case:

BBB, BBR, BRB, BRR, RBR, RRR