Amazing Fulia And His Powers

Our well known FULIA has some amazing powers. One day he put 1 candy in a bag and on next day he do some magic , after that due to his amazing powers the number of candies in the bag starts increasing day by day according to the following formula.

$$C(N) = 2*C(N-1)+3*C(N-2)$$

C(N) denotes number of candies in the bag at Nth day. **[C(1)=C(2) = 1]**

C(N-1) and C(N-2) denotes the number of candies on N-1th and N-2th day respectively.

Fulia is weak at maths and cant deal with big numbers ,so he want you to write a program to count number of candies C(N)%MOD in the bag at Nth day.

MOD = 1000000007

Input

First line of input consists of T(no. of test cases). then T lines follows , each contains a single integer denoting the day N.

Output

Output the value of C(N)%MOD.

Example

Input:
4
1
2
3
4

Output:
1
1
5
13

Constraints

1≤T≤10^3

1≤N≤10^9