Bacteria in The Pond

Saad has recently found out that his village pond has a lot of bacteria in it and they are increasing every day. After some research he discovered a pattern.

He found out that $F_i=F_{i-1}+2*F_{i-2}$ where F_i denotes the number of bacteria in the i-th day.

He did some more research and figured out that in the beginning there were only 2 bacteria in the pond and in the 2nd day there were 7 bacteria and after that they started increasing maintaining the above relation.

Now saad wants to find the number of bacteria in the n-th day and he needs your help.

Input

First line of the input contains a single integer T ($1<=T<=10^5$) denoting the number of test cases.

Then each of the next T lines contains a single integer N ($1<=N<=10^{18}$).

Output

For each case print a single integer in a line denoting the number of bacteria in the N-th day. Since the answer can be very large print the answer modulo of 1000000007.

Sample Input

4

3

5

10

1000

Sample Output

11

47

1537

32634809