Classic Sequence Sum

Find the value of sum of square of all the first N numbers in Fibonacci series.

Input

First line of every input test file contains T denoting the number of test cases for the file, followed by T numbers N.

Output

For every number N output the result(sum of square of first N fib, number) in the below described format.

Value can overflow the standard data type, output the result modulo 1000000007 ($10^9 + 7$).

Constraints

$1 <= T <= 10000$ (10^4)

$1 <= N <= 10000000000000000$ (10^{18})

Example

Input:
3
1
5
10
Output:
Case 1: 1
Case 2: 40
Case 3: 4895