Tribonacci

Yesterday Jojo just learned about Fibonacci numbers from his teacher. Jojo was very happy about the row of numbers, so he wanted to make his own series, called Tribonacci Sequence where $T_N = T_{N-1} + T_{N-2} + T_{N-3}$. As a good friend of Jojo, you do not want to let Jojo count one by one, so you will help Jojo make a program to calculate the numbers!

Given T_1 = 1, T_2 = 1, and T_3 =2.

Format Input

The first line contains *T*, the number of test cases.

Each test case consists of one line containing *N*.

Format Output

Output "Case #*X*: *Y*" for each test case, where *X* is the case number, and Y is the *N*-th number in Tribonacci sequence. As the number gets bigger along the time, output the result modulo 1,000,000,007.

Constraints

$1 \leq T \leq 5000$
$1 \leq N \leq 10^5$

Sample Input	Sample Output
3 1 4 7	Case #1: 1 Case #2: 4 Case #3: 24