Ohani And The Series

Now a days, Ohani has become very expert in mathematics. Her teachers like her very much because of her excellent performance.

One day, one of her teacher gave her a problem to solve. He will give Ohani a number N. This will represent a table of N rows. The first row contains number from 1 to N. Then the next line will contain N-1 numbers, In the second row, the first number will be the summation of the first two numbers (1 + 2) of the previous row, the second number will be the summation of the second two numbers (2 + 3) of the previous row and so on. Row 3 will have N-2 numbers with same procedures. Same procedure follows for row 4, row 5, ... , row N. On the last row, there will be only a single number. Ohani has to tell that only number of the Nth row.

For example: If N = 4, then the table is:

1 2 3 4

 3 5 7

  8 12

   20

So Ohani has to answer the last remaining number: 20.

She can answer when N is small, but can't when N is large. Can you help her?

Input

The first line contains the number of testcases T (T <= 100000).

Each of the test cases contain a number N where 1 <= N <= 100000.

Output

You have to output the case number and the required answer. As the number can be very large, output the answer modulo 1000000007.

Example

Input:
2
1
2

Output:
Case 1: 1
Case 2: 3