

## Fibonacci Sum

Jojo just learnt about Fibonacci number. In mathematics, the Fibonacci numbers are the numbers in the following integer sequence, called the Fibonacci sequence, and characterized by the fact that every number after the first two is the sum of the two preceding ones. In general, the  $n$ -th Fibonacci number can be written as:

$$F(n) = F(n-1) + F(n-2)$$
$$F(1) = F(2) = 1$$

Here are the example of the first 5 Fibonacci number : 1,1,2,3,5. Now Jojo is wondering what is the sum of the first  $N$  fibonacci number.

### Format Input

The first line is integer  $T$  represent number of test case. The next  $T$  lines contain integer  $N$ .

### Format Output

There are  $T$  lines. Each line represent the sum of first  $N$  fibonacci modulo by 1 000 000 009.

### Constraints

$1 \leq T \leq 10\,000$

$1 \leq N \leq 100\,000$

Sample Input (standard input)	Sample Output (standard output)
7 1 2 3 4 5 100000 99	Case #1: 1 Case #2: 2 Case #3: 4 Case #4: 7 Case #5: 12 Case #6: 30064071 Case #7: 486534405

### Explanation

The answer of the fifth test is  $1+1+2+3+5 = 7$

### Hint

$$(a+b) \% m = (a \% m + b \% m) \% m$$