
Problem A. Line Counting

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

Bobo has a set P of $\frac{n(n+1)}{2}$ points: $\{(x, y) : 1 \leq x \leq y \leq n, x, y \in \mathbb{Z}\}$. He would like to know the number of distinct lines passing through at least two points in P , taken modulo $(10^9 + 7)$.

Input

The input contains zero or more test cases, and is terminated by end-of-file.

Each test case is a single line containing an integer n ($2 \leq n \leq 2 \cdot 10^9$).

It is guaranteed that the number of test cases does not exceed 10^5 , and the sum of all n does not exceed $2 \cdot 10^9$.

Output

For each test case, output an integer which denotes the number of distinct lines.

Example

standard input	standard output
2	3
3	9
5	51