Problem L

Limited Increasing Sequences

Krystalova is studying a very particular sequence that she likes very much. Krystalova named the sequence: "Limited Increasing Sequence". A sequence X of positive integer numbers is a limited increasing sequence if and only if every element X_i is not greater than the sum of all the items $X_j \mid j < i$. In other words, every element X_i meets the following condition:

$$\sum_{j=1}^{i-1} X_j \geq X_i$$

Let $f(X)$ be the sum of all the elements in a limited increasing sequence, it is said the limited increasing sequence X produces K if $f(X) = K$.

Looking at this sequence, Krystalova found that a number K may be produced as the result of different X. She wants to know how many different limited increasing sequences produces K.

Help Krystalova to solve her problem!

Input

In the first line, you will have a single integer K $(1 \leq K \leq 10^6)$

Output

Print a line with a single number with the result. As the answer might be very large, please output the answer modulo $10^9 + 7$

Input example 1	**Output example 1**
10	84

Input example 2	**Output example 2**
2022	904964280

Input example 3	**Output example 3**
3	1