Giant Fibonacci

Description

As a strong programmer, Tmt514 is familiar with Fibonacci sequence, which can defined by the recurrence relation as follows.

$$F_0 = 0$$
$$F_1 = 1$$
$$F_n = F_{n-1} + F_{n-2}$$

Since calculating F_n mod 20130721 is too boring for you, he is asking you to calculate F_{F_n} mod 20130721.

Input

Each test case contains an integer n in a single line.

- $0 \leq n \leq 10^9$

Output

For each test case, output an integer F_{F_n} mod 20130721 in a single line.

Sample Input

```
5
6
```

Sample Output

```
5
21
```