Simplified Fibonacci

by Kai Hormann

You love Fibonacci numbers (who doesn't?!), but your sister can only count to 10! Hence, you decide to simplify the sequence of Fibonacci numbers for her by always replacing numbers with their iterated digit sum. For a nonnegative integer n, the iterated digit sum is defined as the result of repeatedly computing the sum of n's digits in base 10 until the result is less than 10. For example, $n = 28423$ has a digit sum of 19, whose digit sum is 10, and so the iterated digit sum of 28423 is just 1. The sequence of Fibonacci numbers $(0, 1, 1, 2, 3, 5, 8, 13, 21, 34, \ldots)$ thus turns into the sequence of *simplified* Fibonacci numbers $(S_k)_{k \geq 0} = (0, 1, 1, 2, 3, 5, 8, 4, 3, 7, \ldots)$.

Given a non-negative integer $m \leq 10^{18}$, print S_m.

Input

A single line containing the input number $m \leq 10^{18}$.

Output

A single line containing the simplified Fibonacci number S_m.

Examples

Sample input 1

```
7
```

Sample output 1

```
4
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Limits

Time limit is 1 seconds.

Memory limit is 256 megabytes.