600. Non-negative Integers without Consecutive Ones

Difficulty : Hard

https://leetcode.com/problems/non-negative-integers-without-consecutive-ones

Given a positive integer `n`, return the number of the integers in the range `[0, n]` whose binary representations **do not** contain consecutive ones.

Example 1:

```
Input: n = 5
Output: 5
Explanation:
Here are the non-negative integers <= 5 with their corresponding binary representations:
0 : 0
1 : 1
2 : 10
3 : 11
4 : 100
5 : 101
Among them, only integer 3 disobeys the rule (two consecutive ones) and the other 5 satisfy the rule.
```

Example 2:

```
Input: n = 1
Output: 2
```

Example 3:

```
Input: n = 2
Output: 3
```

Constraints:

- `1 <= n <= 10^9`