1527. Number of Ways to Paint N Ã— 3 Grid

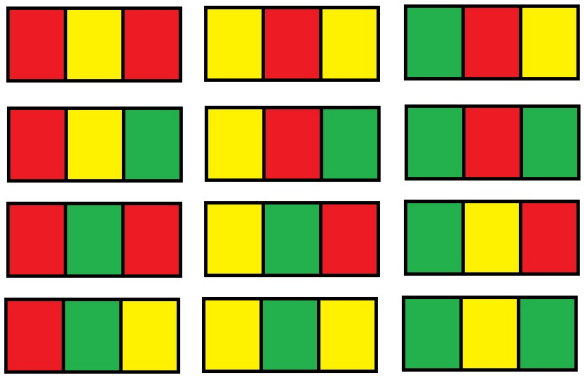
Difficulty : Hard

https://leetcode.com/problems/number-of-ways-to-paint-n-3-grid

You have a `grid` of size `n x 3` and you want to paint each cell of the grid with exactly one of the three colors: **Red**, **Yellow,** or **Green** while making sure that no two adjacent cells have the same color (i.e., no two cells that share vertical or horizontal sides have the same color).

Given `n` the number of rows of the grid, return *the number of ways* you can paint this `grid`. As the answer may grow large, the answer **must be** computed modulo $10^9 + 7$.

Example 1:



```
Input: n = 1
Output: 12
Explanation: There are 12 possible way to paint the grid as shown.
```

Example 2:

```
Input: n = 5000
Output: 30228214
```

Constraints:

- `n == grid.length`
- `1 <= n <= 5000`