2320. Count Number of Ways to Place Houses

Description

There is a street with `n * 2` **plots**, where there are `n` plots on each side of the street. The plots on each side are numbered from `1` to `n`. On each plot, a house can be placed.

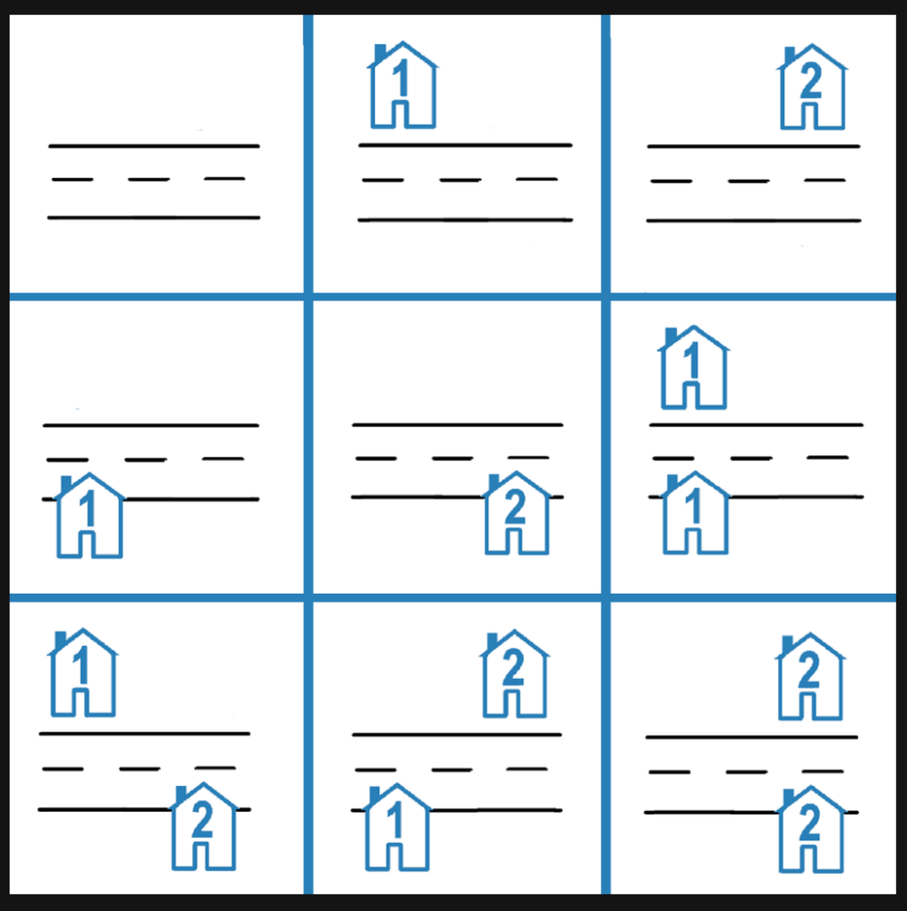
Return *the number of ways houses can be placed such that no two houses are adjacent to each other on the same side of the street*. Since the answer may be very large, return it **modulo** `10^9 + 7`.

Note that if a house is placed on the `i^th` plot on one side of the street, a house can also be placed on the `i^th` plot on the other side of the street.

Example 1:

```
Input: n = 1
Output: 4
Explanation:
Possible arrangements:
1. All plots are empty.
2. A house is placed on one side of the street.
3. A house is placed on the other side of the street.
4. Two houses are placed, one on each side of the street.
```

Example 2:



```
Input: n = 2
Output: 9
Explanation: The 9 possible arrangements are shown in the diagram above.
```

Constraints:

- `1 <= n <= 10^4`