672. Bulb Switcher II

Description

There is a room with `n` bulbs labeled from `1` to `n` that all are turned on initially, and **four buttons** on the wall. Each of the four buttons has a different functionality where:

- **Button 1:** Flips the status of all the bulbs.
- **Button 2:** Flips the status of all the bulbs with even labels (i.e., `2, 4, ...`).
- **Button 3:** Flips the status of all the bulbs with odd labels (i.e., `1, 3, ...`).
- **Button 4:** Flips the status of all the bulbs with a label `j = 3k + 1` where `k = 0, 1, 2, ...` (i.e., `1, 4, 7, 10, ...`).

You must make **exactly** `presses` button presses in total. For each press, you may pick **any** of the four buttons to press.

Given the two integers `n` and `presses`, return *the number of **different possible statuses** after performing all* `presses` *button presses*.

Example 1:

```
Input: n = 1, presses = 1
Output: 2
Explanation: Status can be:
- [off] by pressing button 1
- [on] by pressing button 2
```

Example 2:

```
Input: n = 2, presses = 1
Output: 3
Explanation: Status can be:
- [off, off] by pressing button 1
- [on, off] by pressing button 2
- [off, on] by pressing button 3
```

Example 3:

```
Input: n = 3, presses = 1
Output: 4
Explanation: Status can be:
- [off, off, off] by pressing button 1
- [off, on, off] by pressing button 2
- [on, off, on] by pressing button 3
- [off, on, on] by pressing button 4
```

Constraints:

- `1 <= n <= 1000`
- `0 <= presses <= 1000`