

# Bridges

In the Middle Ages, towns that were located close to rivers developed much faster than other settlements. Towns that had a bridge got even richer. Thus, the king of our country asks his top researchers for the best places to build bridges. They found the following constraints:

- Bridges should not be placed in directly neighboring cities along the river.
- It should not be possible to add more bridges without violating the first condition.

It is your job now to count all possible constellations for the optimal placement of bridges. For example, consider five towns upon a river (numbered from 0 to 4 from east to west). Then there are *four* constellations that do not violate the constraints above, namely {0, 2, 4}, {1, 3}, {1, 4}, and {0, 3}.

## Input

The first line contains the number of test cases that follow. Each test case is given in one line that holds the number of towns  $T$  that are close to a river in this kingdom ( $0 < T < 77$ ).

## Output

For each test case, output the number of possible constellations in a single line.

## Sample Input

```
4
1
3
5
76
```

## Sample Output

```
1
2
4
1828587033
```