DWITE '10 R3 #3 - Dominos Tiling

Time limit: 1.0s **Memory limit:** 64M

DWITE Online Computer Programming Contest, December 2010, Problem 3

Counting the number of tilings of different sized boards with dominoes (i.e. 2 by 1 rectangles) can be a pretty difficult task. However, here you must only determine the number of ways to tile boards of height 3 and some width.

The input will contain 5 lines, each containing an integer $0 \leq N \leq 30$, the width of the board you want to tile with dominoes.

The output will contain 5 lines, where each line represents the number of ways to tile a $3 \times N$ board with dominoes modulo $1\,000\,000$ (i.e. The output is the remainder you get when you divide the number of ways to tile a $3 \times N$ board with dominoes by $1\,000\,000$).

Sample Input

```
1
4
3
25
13
```

Sample Output

```
0
11
0
0
0
```

Problem Resource: DWITE