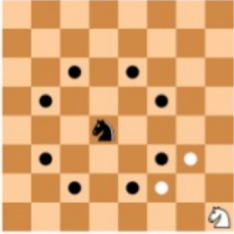


## Problem D: Knight on Wide Board

Time Limit: 5 seconds

### Description



26	29	2	21	8	23	6	17	14	11
	20	27	24	3	18	9	12	5	16
28	25	30	19	22	7	4	15	10	13

A knight can move in any one of 8 directions (see diagram above on the left). A knight's tour is a succession of moves made by a knight that traverses every square on an  $M \times N$  chessboard once and only once. A closed knight's tour is one in which the knight's last move in the tour places it a single move away from where it started. See example above to the right (follow the numbers in increasing order to trace the path). In this problem you will count the number of *closed* knight tours.

### Input

A number of of inputs ( $\leq 1000$ ), each line with  $N$  and  $M$  ( $0 < N < 5$ ,  $1 \leq M \leq 1000000000$ ).

### Output

Output one line per input, the number of closed knight tours modulo **1000000007**.

### Sample Input

```
1 2
3 10
```

### Sample Output

```
0
16
```