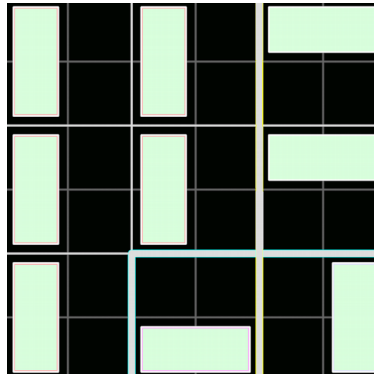# Problem G: Sparse Domino Tiling
Time Limit: 5 seconds

Description

A domino is a **1x2** or **2x1** Tile. Determine in how many ways exactly N^2 dominoes can be placed without overlapping on an **(2M) x (2N)** chessboard, such that every **2x2** square contains at least two uncovered unit squares which lie in the same row or column. One possible tiling is shown below:

Input

A number of inputs (≤**1000**), with space separated integers **N, M** ($1 \le$ **M, N** $\le$ **1000000**), each on one line.

Output

Output one line per input, the answer modulo **10000000007**.

Sample Input
1 1
2 2

Sample Output
4
36