Problem E. Eel and Grid

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1.5 seconds
Memory limit:	256 mebibytes

There is an $H \times W$ grid. Let $(i,\ j)$ be the cell at the intersection of the i-th row $(0 \leq i \leq H-1)$ and the j-th column $(0 \leq j \leq W-1)$. Initially, there is an eel at the cell $(0,\ 0)$. The eel repeats the following process.

- If the current cell is painted, end the process.
- If the current cell is not painted, paint the cell and move to another cell. If the current cell is $(i,\ j)$, the new cell must be either $((i+1) \bmod H,\ j)$ or $(i,\ (j+1) \bmod W)$.

Count the number of ways to paint all cells and end the process at the cell $(0,\ 0)$, modulo 10^9+7. Two ways are considered distinct if the path traveled by the eel are distinct.

Input

Input Format:

H W

Constraints:

- $2 \leq H, W \leq 10^6$

Output

Print the answer modulo 10^9+7.

Examples

standard input	standard output
2 2	2
6 3	3
3 4	0
10 10	260
200 300	551887980

Note

The following picture shows the two ways in Sample 1: