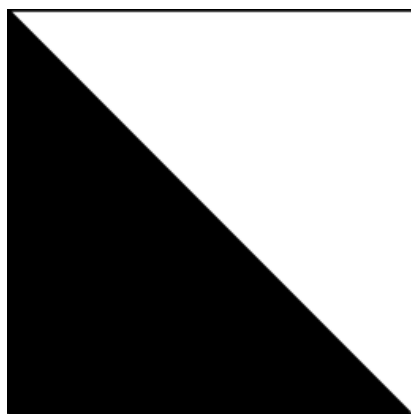


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[PROBLEMS](#) [SUBMIT CODE](#) [MY SUBMISSIONS](#) [STATUS](#) [HACKS](#) [ROOM](#) [STANDINGS](#) [CUSTOM INVOCATION](#)

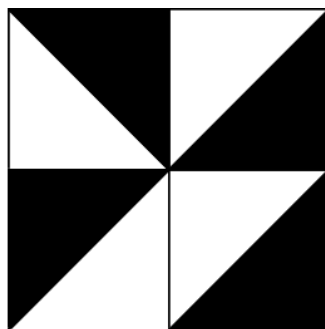
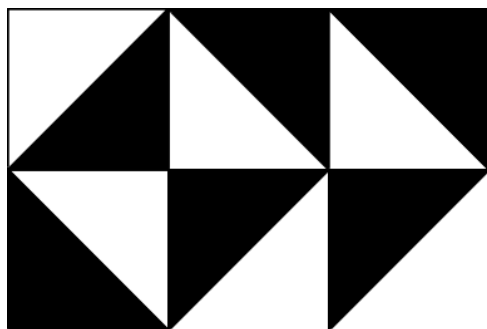
C. Tiles

time limit per test: 1 second
 memory limit per test: 256 megabytes
 input: standard input
 output: standard output

Bob is decorating his kitchen, more precisely, the floor. He has found a prime candidate for the tiles he will use. They come in a simple form factor — a square tile that is diagonally split into white and black part as depicted in the figure below.



The dimension of this tile is perfect for this kitchen, as he will need exactly $w \times h$ tiles without any scraps. That is, the width of the kitchen is w tiles, and the height is h tiles. As each tile can be rotated in one of four ways, he still needs to decide on how exactly he will tile the floor. There is a single aesthetic criterion that he wants to fulfil: two adjacent tiles must not share a colour on the edge — i.e. one of the tiles must have a white colour on the shared border, and the second one must be black.



The picture on the left shows one valid tiling of a 3×2 kitchen. The picture on the right shows an invalid arrangement, as the bottom two tiles touch with their white parts.

Find the number of possible tilings. As this number may be large, output its remainder when divided by 998244353 (a prime number).

Input

The only line contains two space separated integers w, h ($1 \leq w, h \leq 1\,000$) — the width and height of the kitchen, measured in tiles.

Output

Output a single integer n — the remainder of the number of tilings when divided by 998244353.

Codeforces Global Round 4


Contest is running

00:42:56

Contestant



→ Submit?

Language: Python 3.7.2 
 Almost always, if you send a solution on PyPy, it works much faster

Choose file: Choose File No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

→ Score table

	Score
Problem A	329
Problem B	494
Problem C	822
Problem D	1151
Problem E	1316
Problem F1	987
Problem F2	987
Problem G	2138
Problem H	2631
Successful hack	100
Unsuccessful hack	-50
Unsuccessful submission	-50
Resubmission	-50

* If you solve problem on 01:47 from the first attempt

Examples

input	Copy
2 2	
output	Copy
16	

input	Copy
2 4	
output	Copy
64	

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The only programming contests Web 2.0 platform
Server time: Jul/20/2019 22:52:02^{UTC+5.5} (e1).
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