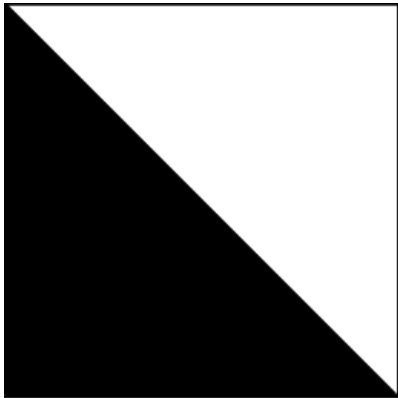


PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS HACKS ROOM STANDINGS CUSTOM INVOCATION

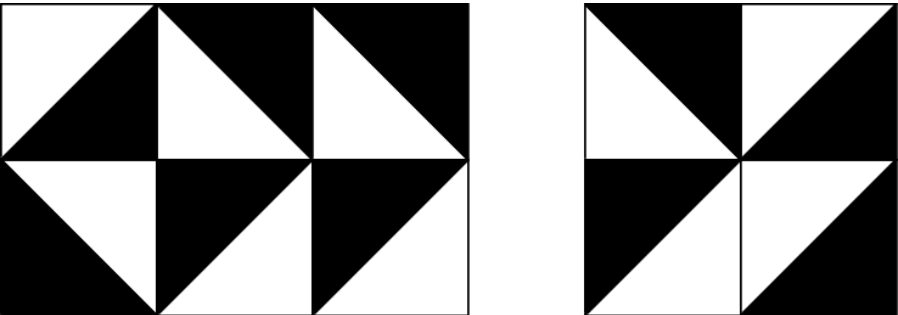
C. Tiles

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.

Examples

input	Copy
2 2	
output	Copy
16	

Codeforces Global Round 4

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Practice

You are registered for practice. You can solve problems unofficially. Results can be found in the contest status and in the bottom of standings.

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++11 5.1.0

Choose file: 未选择任何文件

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

→ Last submissions

Submission	Time	Verdict
57432416	Jul/21/2019 05:26	Accepted

→ Problem tags

combinatorics ☐ greedy ☐

[Add tag](#)

→ Contest materials

 input	<input type="button" value="Copy"/>
2 4	
output	<input type="button" value="Copy"/>
64	

- [Announcement #1 \(en\)](#)
- [Announcement #2 \(ru\)](#)
- [Tutorial \(en\)](#)

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