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PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

# D. Greg and Caves

time limit per test: 2 seconds memory limit per test: 256 megabytes input: standard input output: standard output

Greg has a pad. The pad's screen is an  $n \times m$  rectangle, each cell can be either black or white. We'll consider the pad rows to be numbered with integers from 1 to n from top to bottom. Similarly, the pad's columns are numbered with integers from 1 to m from left to right.

Greg thinks that the pad's screen displays a cave if the following conditions hold:

- There is a segment [l, r]  $(1 \le l \le r \le n)$ , such that each of the rows l, l+1, ..., r has exactly two black cells and all other rows have only white cells.
- There is a row number t ( $l \le t \le r$ ), such that for all pairs of rows with numbers i and j ( $l \le i \le j \le t$ ) the set of columns between the black cells in row i (with the columns where is these black cells) is the subset of the set of columns between the black cells in row j (with the columns where is these black cells). Similarly, for all pairs of rows with numbers i and j ( $t \le i \le j \le r$ ) the set of columns between the black cells in row j (with the columns where is these black cells) is the subset of the set of columns between the black cells in row i (with the columns where is these black cells).

Greg wondered, how many ways there are to paint a cave on his pad. Two ways can be considered distinct if there is a cell that has distinct colors on the two pictures.

Help Greg.

### Input

The first line contains two integers n, m — the pad's screen size  $(1 \le n, m \le 2000)$ .

### Output

In the single line print the remainder after dividing the answer to the problem by 1000000007 ( $10^9 + 7$ ).

## **Examples**

input	Сору
1 1	
output	Сору
0	
input	Сору
4 4	
output	Сору
485	
input	Сору
3 5	
output	Сору
451	

### → Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

# Codeforces Round #179 (Div. 1)

#### **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

# → Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

# → Submit?

Language: GNU G++11 5.1.0

Choose

选择文件 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

"Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

Submit

### → Problem tags

combinatorics dp

No tag edit access



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