You have an infinite number of 4 types of lego blocks of sizes given as (depth x height x width):

d	h	w
1	1	1
1	1	2
1	1	3
1	1	4

Using these blocks, you want to make a wall of height n and width m. Features of the wall are:

- The wall should not have any holes in it.
- The wall you build should be one solid structure, so there should not be a straight vertical break across all rows of bricks.
- The bricks must be laid horizontally.

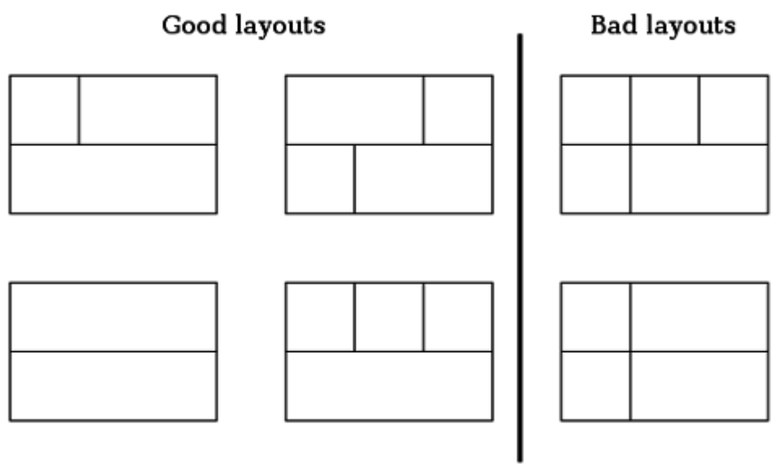
How many ways can the wall be built?

Example

$n = 2$

$m = 3$

The height is 2 and the width is 3. Here are some configurations:



These are not all of the valid permutations. There are 9 valid permutations in all.

Function Description

Complete the legoBlocks function in the editor below.

legoBlocks has the following parameter(s):

- int n: the height of the wall
- int m: the width of the wall

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```
#

def legoBlocks(height, width):
    mod = 10 ** 9 + 7

    valid_perms = [0] * (width + 1)
    valid_perms[0] = 1

    for w in range(1, width + 1):
        valid_perms[w] = sum(valid_perms[max(0, w - 4):w])
        valid_perms[w] %= mod

    for w in range(width + 1):
        valid_perms[w] = valid_perms[w] ** height
        valid_perms[w] %= mod
            list

    valid = valid_perms[:]

    for w in range(len(valid)):
        for separator in range(1, w):
            valid[w] -= valid[separator] * valid_perms[w-separator]

        valid[w] %= mod

    return valid[width]
```

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Next Challenge

Test case 0

Test case 1

Test case 2

Compiler Message

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