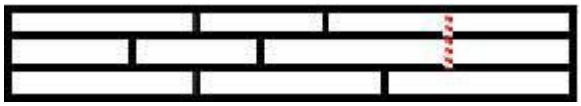
Your niece was given a set of blocks for her birthday, and she has decided to build a panel using 3”×1” and 4.5”×1" blocks. For structural integrity, the spaces between the blocks must not line up in adjacent rows. For example, the 13.5”×3” panel below is unacceptable, because some of the spaces between the blocks in the first two rows line up (as indicated by the dotted line).



There are 2 ways in which to build a 7.5”×1” panel, 2 ways to build a 7.5”×2” panel, 4 ways to build a 12”×3” panel, and 7958 ways to build a 27”×5” panel. How many different ways are there for your niece to build a 48”×10” panel? The answer will fit in a 64-bit integer. Write a program to calculate the answer.

The program should be non-interactive and run as a single-line command which takes two command-line arguments, width and height, in that order. Given any width between 3 and 48 that is a multiple of 0.5, inclusive, and any height that is an integer between 1 and 10, inclusive, your program should calculate the number of valid ways there are to build a wall of those dimensions. Your program’s output should simply be the solution as a number, with no line-breaks or white spaces.

Your program will be judged on how fast it runs and how clearly the code is written. We will be running your program as well as reading the source code, so anything you can do to make this process easier would be appreciated.

Send the source code and let us know the value that your program computes, your program’s running time, and the kind of machine on which you ran it.