

Kundu And Bubble Wrap

Kundu has a Bubble Wrap and like all of us she likes popping it. The Bubble wrap has dimensions $N \times M$, i.e. it has N rows and each row has M cells which has a bubble. Initially all bubbles in filled with air and can be popped.

What Kundu does is randomly picks one cell and tries to pop it, there might be a case that the bubble Kundu selected is already popped. In that case he has to ignore this. Both of these steps take 1 second of time. Tell the total **expected number** of seconds in which Kundu would be able to pop them all.

Input:

Input contains a single line containing two space seperated integers, N M , representing the dimension of Bubble wrap.

Output:

Output the required answer in one line. The answer will be considered correct, if its absolute error doesn't exceed 10^{-2} .

Constraints:

$$1 \leq N, M \leq 1000$$

Sample Input #00

1 1

Sample Output #00

1

Sample Input #01

1 2

Sample Output #01

3

Sample Input #02

2 2

Sample Output #02

8.3333333333

Explanation

Test Case #00: There is only one bubble, so he needs only one chance to pop it.

Test Case #01: Expected number of steps of popping two bubbles is 3.

Test Case #02: There are 4 bubbles with equal probability of popping out. Expected number of steps to pop all of them is 8.333333...

Tested by: [Lalit Kundu](#)