

# 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 are 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 separated 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](#)