

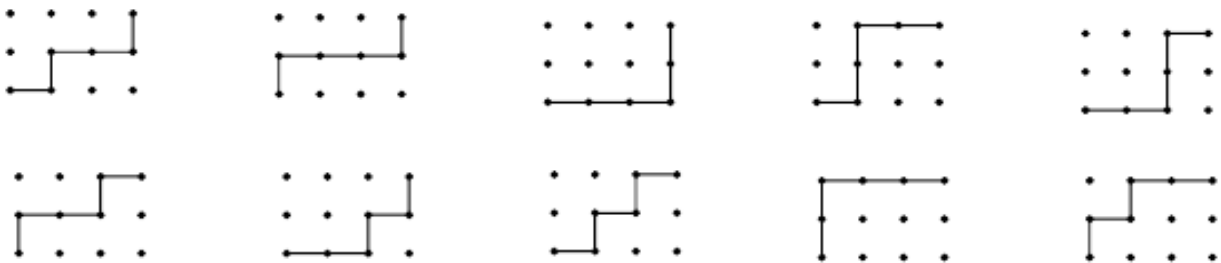


4891 - Jill's Walks

North America - North Central - 2010/2011

Jill Bates used to be an avid cyclist, but as she's grown older, she now walks for exercise. The regions where Jill walks are all laid out as rectangular grids, and she arranges her walks so she walks from the intersection at the lower left of the region (on a map) to the upper right intersection, always moving away from her starting point and closer to the destination.

For example, consider a region of size 3 by 4 with 12 intersections. Here are the 10 possible routes Jill could take through this region.



Given the dimensions of the region, how many different routes could Jill take?

Input

There will be multiple input cases to consider. The input for each case is a line containing a pair of integers M and N giving the number of intersections in each dimension of the region. Each of these is greater than zero and no larger than 50. The input for the last case is followed by a line containing two zeroes. No signed integers larger than 64 bits will be required in a solution.

Output

For each case, display the case number and number of unique paths Jill might take. Each of the answers will fit in a 32-bit signed integer.

Sample Input

```
3 4
4 3
1 50
2 10
0 0
```

Sample Output

```
Case 1: 10
Case 2: 10
Case 3: 1
Case 4: 10
```