Hackerland is a happy democratic country with $m \times n$ cities, arranged in a rectangular m by n grid and connected by m roads in the east-west direction and n roads in the north-south direction. By public demand, this orthogonal road system is to be supplemented by a system of highways in sucha way that there will be a direct connection between any pair of cities. Each highway is a straight line going through two or more cities. If two cities lie on the same highway, then they are directly connected.If two cities are in the same row or column, then they are already connected by the existing orthogonal road system (each east-west road connects all the m cities in that row and each north-south road connects all the n cities in that column), thus no new highway is needed to connect them. Your task is to count the number of highway that has to be built (a highway that goes through several cities on a straight line is counted as a single highway).
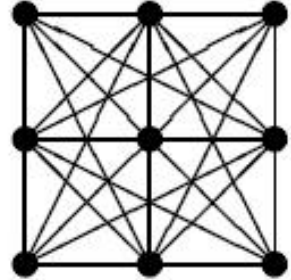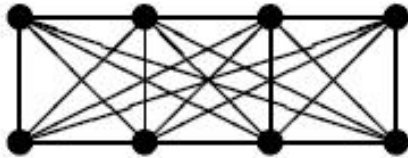
Input

The input contains several blocks of test cases. Each test case consists of a single line containing two integers $1 \le n$, $m \le 300$, specifying the number of cities. The input is terminated by a test case with $n = m = 0$.

Output

For each test case, output one line containing a single integer, the number of highways that must be built.

Sample Input

```
2 4
3 3
0 0
```

Sample Output

```
12
14
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