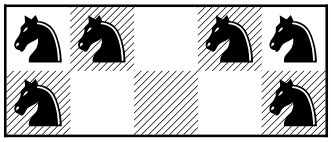
Pacific knights P27960_en

Given an $n \times m$ chess board, how many knights can we place on it so that no two knights threaten each other? For instance, we can place six knights on a 2×5 board:



Input

Input consists of several cases, each with n and m, both between 1 and 10^4.

Output

For every case, print the maximum number of knights that we can place on an $n \times m$ chess board without any threats.

Sample input 1

```
2 5
1 1
4 1
3 5
```

Sample output 1

```
6
1
4
8
```

Problem information

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