

Notice: 1:由于本OJ建立在Linux平台下，而许多题的数据在Windows下制作，请注意输入、输出语句及数据类型及范围，避免无谓的RE出现。 2:本站即将推出针对初学者的试题系统(与目前OJ是分开的，互不影响)，内容覆盖从语法入门到NOI的所有知识点，敬请关注。

4302: Hdu 5301 Buildings

Time Limit: 1 Sec Memory Limit: 128 MB

Submit: 57 Solved: 30

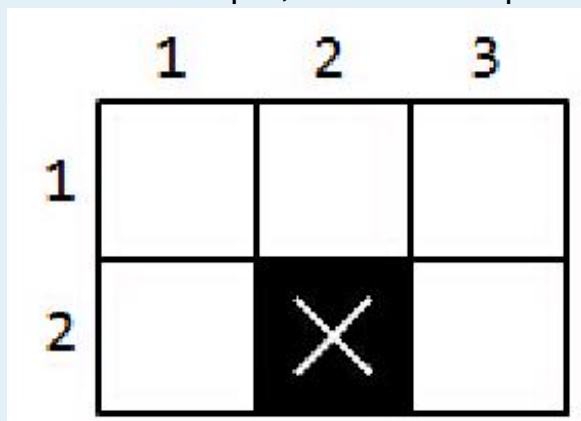
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Description

Your current task is to make a ground plan for a residential building located in HZXJHS. So you must determine a way to split the floor building with walls to make apartments in the shape of a rectangle. Each built wall must be paralld to the building's sides.

The floor is represented in the ground plan as a large rectangle with dimensions $n \times m$, where each apartment is a smaller rectangle with dimensions $a \times b$ located inside. For each apartment, its dimensions can be different from each other. The number a and b must be integers.

Additionally, the apartments must completely cover the floor without one 1×1 square located on (x,y) . The apartments must not intersect, but they can touch. For this example, this is a sample of $n=2, m=3, x=2, y=2$.



To prevent darkness indoors, the apartments must have windows. Therefore, each apartment must share its at least one side with the edge of the rectangle

representing the floor so it is possible to place a window.

Your boss XXY wants to minimize the maximum areas of all apartments, now it's your turn to tell him the answer.

Input

There are at most 10000 testcases.

For each testcase, only four space-separated integers,
 n, m, x, y ($1 \leq n, m \leq 10^8, n \times m > 1, 1 \leq x \leq n, 1 \leq y \leq m$).

Output

For each testcase, print only one integer, representing the answer.

Sample Input

```
2 3 2 2
```

```
3 3 1 1
```

Sample Output

```
1
```

```
2
```

HINT

Source

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Based on opensource project hustoj.