

## 4432 Royal Gems

In the game of Royal Gems, you are given an  $n \times m$  board and arbitrarily large number of ruby, emerald, sapphire, and diamond gemstones. You must put one gemstone in each cell of the board according to the following rules:

1. Every ruby has an emerald, a sapphire and a diamond in his neighbors.
2. Every emerald has a sapphire and a diamond in her neighbors.
3. Every sapphire has a diamond in his neighbors.

A neighbor of a cell is one of the four cells that are directly above, below, left, or right of the cells. Write a program that finds the maximum number of ruby gemstones that could be put on the board satisfying the above rules.

### Input

There are multiple test cases in the input. Each test case consists of  $n$  ( $1 < n < 8$ ) and  $m$  ( $1 < m < 8$ ). The input terminates with a line containing '0 0'.

### Output

For each test case, write a single line containing the maximum number of ruby gemstones on the board.

### Sample Input

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

### Sample Output

```
0
1
2
```