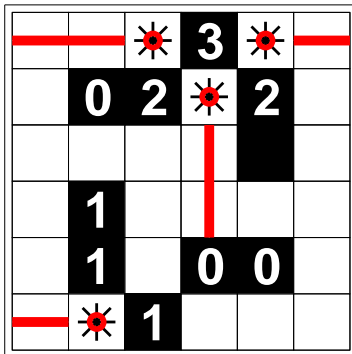
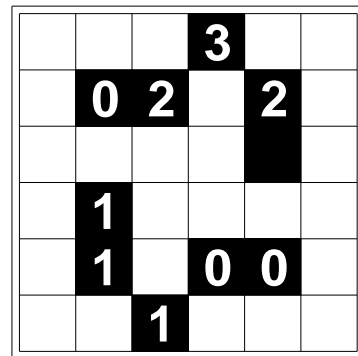


Light Up

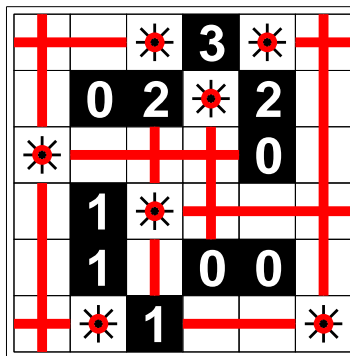
The puzzle consists of an area of cells, some empty and some shaded black, and you have to work out where to place lamps in empty cells so that they illuminate every empty cell horizontally or vertically. No lamp is allowed to shine on another lamp, and the black cells form a limit to the range of any lamp. Numbers given in any black cell tells you how many lamps there are as neighbours to that cell. All empty cells must eventually be a lamp site or be illuminated by a lamp elsewhere.

The examples given here are appropriate for solution by pen and paper, but they are quite tough. There are harder problems on line for interactive solution, but there the software provided gives the ability to make alterations without confusing the diagram.

In this example we see a 3 on the top edge, which therefore has lamps in all its neighbouring cells. These lamps satisfy the two 2s. Two of the neighbours for the 1 on the bottom row are denied a lamp because of the nearby 0, so there is only one place for this lamp.



There is only one place for a lamp to light the cell above this bottom row 1 as the 2 directly above is already satisfied. Also there is only one place to light the side of this 1, namely the bottom right corner. The problem is then solved by a final lamp for the first column and the third row.

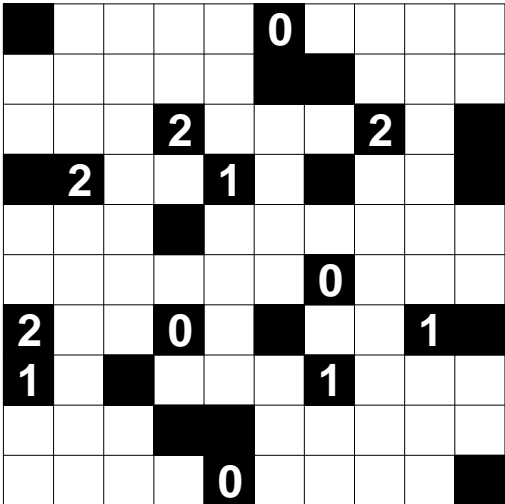


Thus the puzzle is completed. All the examples given here have unique solutions; I must apologise to readers of my book with this particular puzzle as I thought in error that my software was complete, but I included a number with multiple solutions. We start with a few 10×10 puzzles, where numbers 9, 10, 11 & 12 revisit 224, 226, 230 & 233 of my book, where 225, 227 & 232 are also multiple solution. The larger size puzzles which follow, 14×14 , are probably about the best size for solver satisfaction. Nevertheless, I have added six at 18×18 for the devotees.

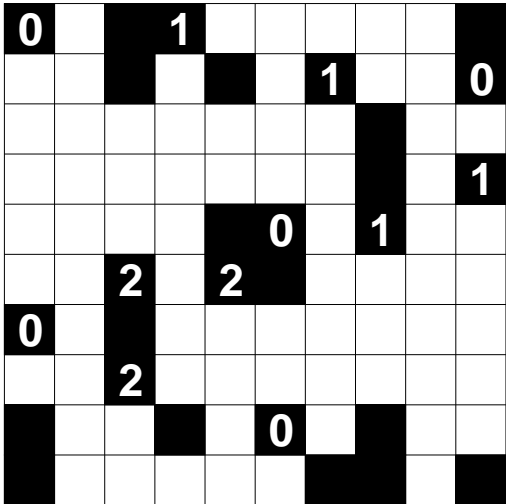
Then I couldn't resist adding a huge one!

Light Up

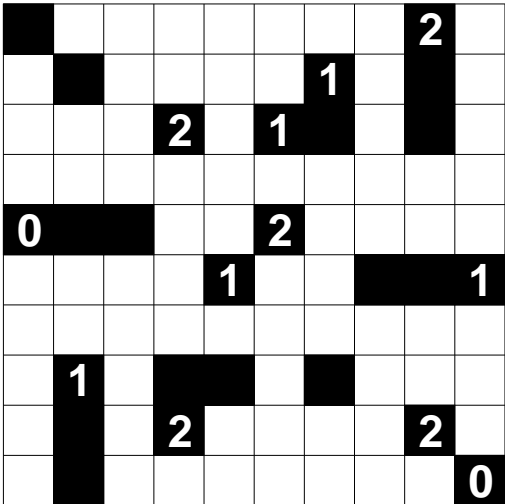
10 × 10



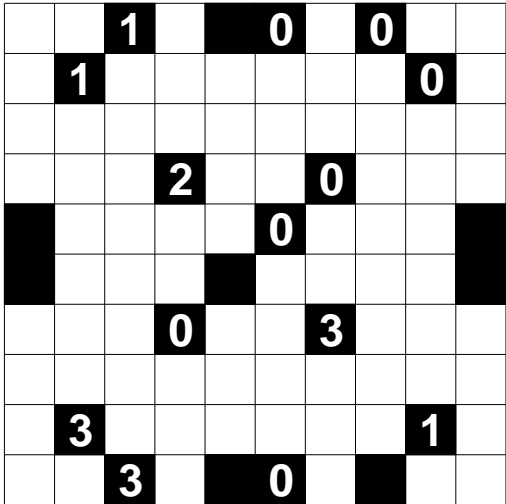
7



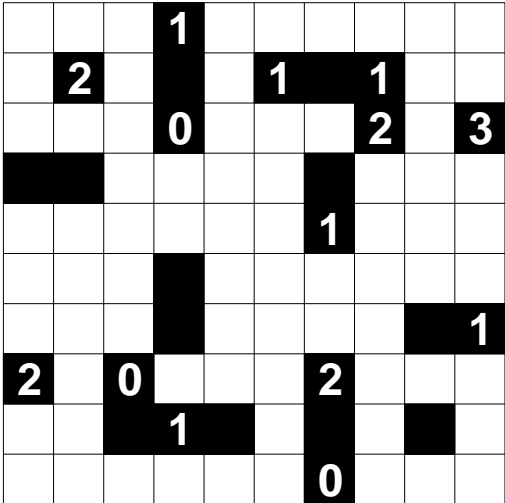
8



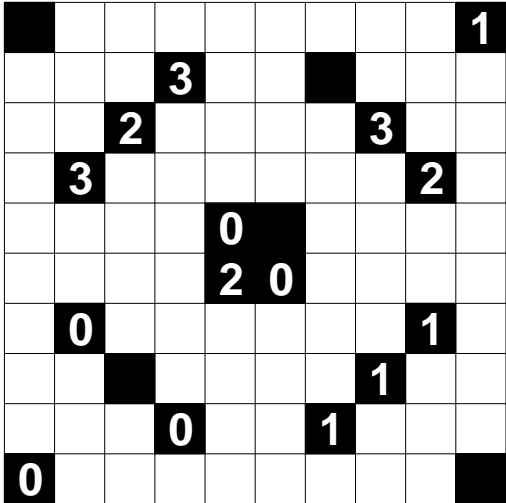
9



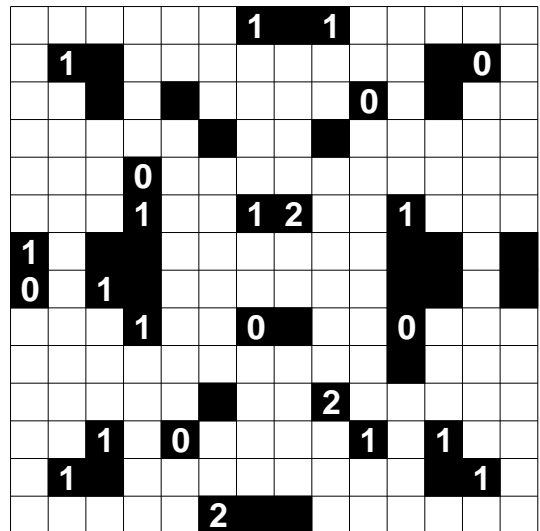
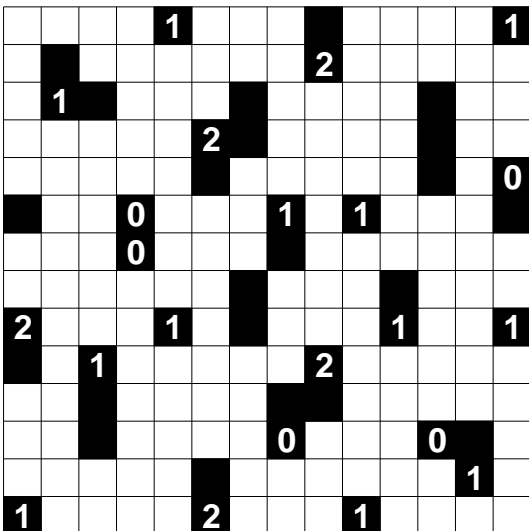
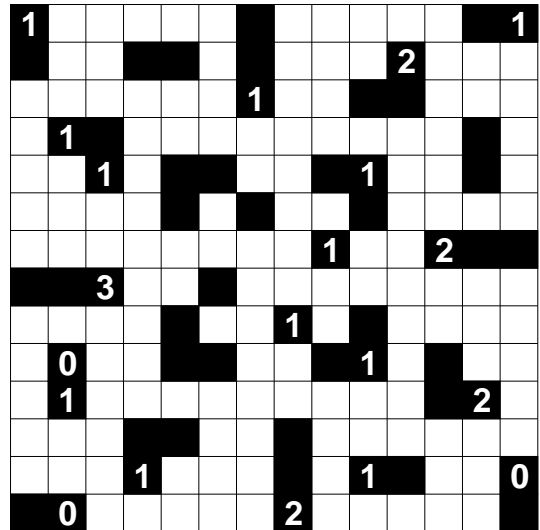
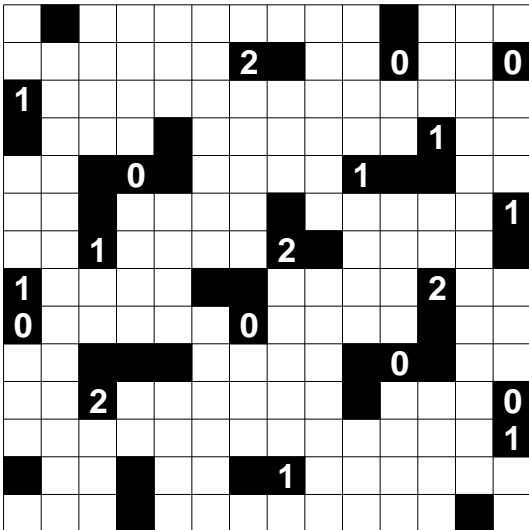
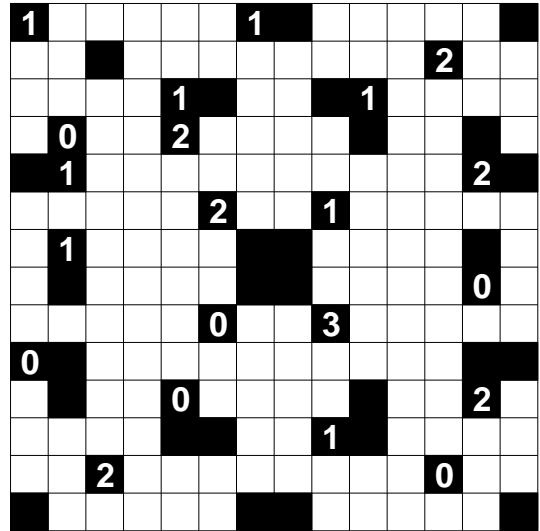
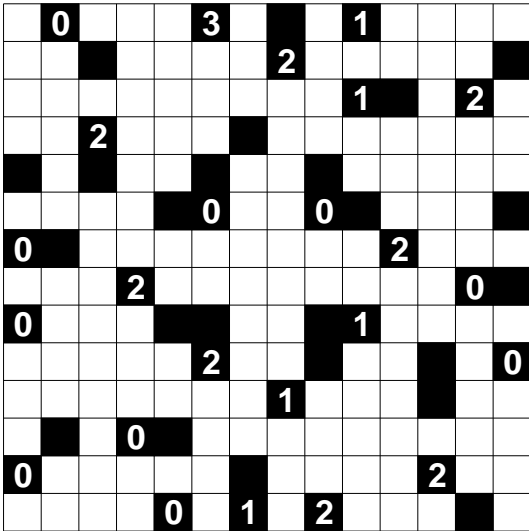
10

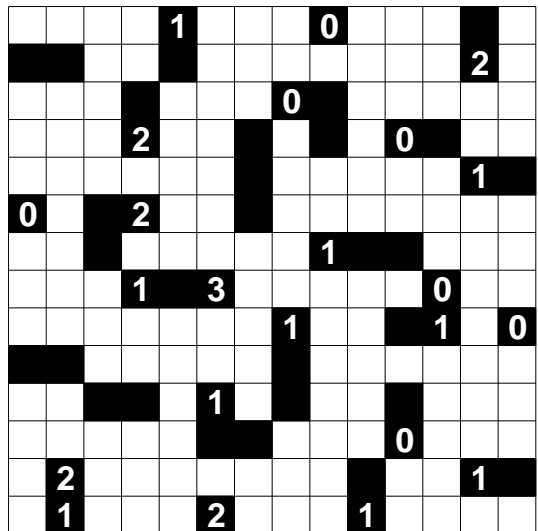
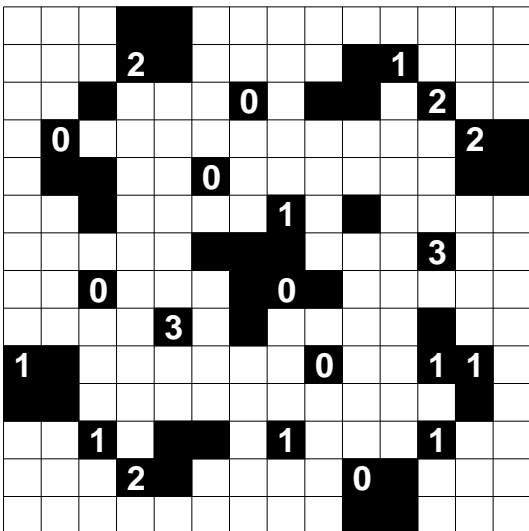
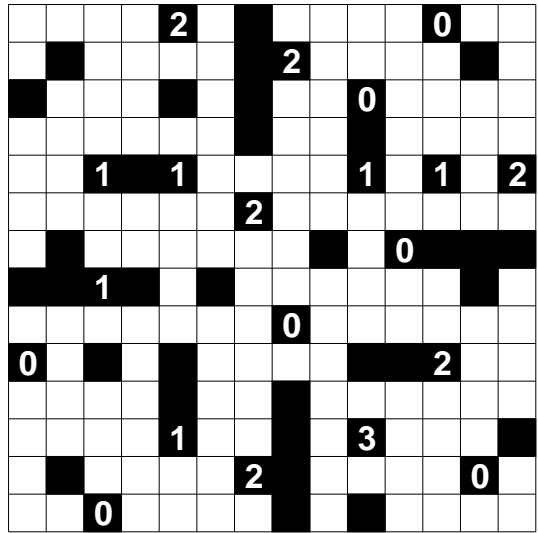
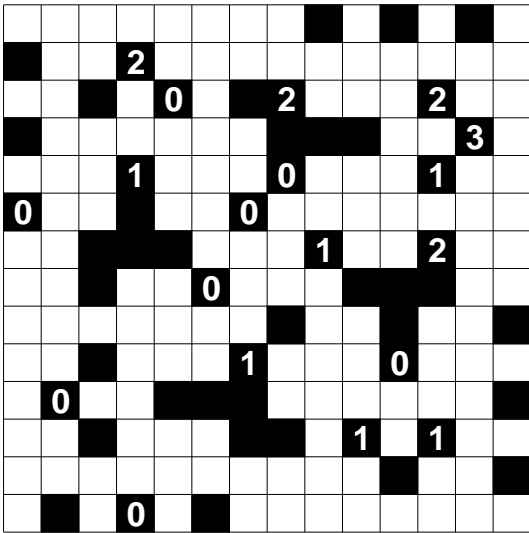
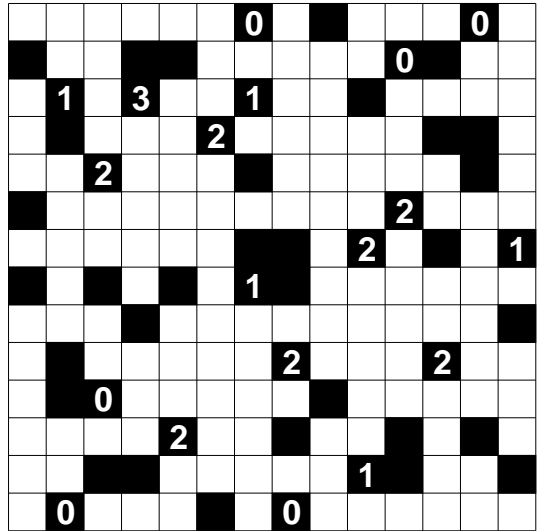
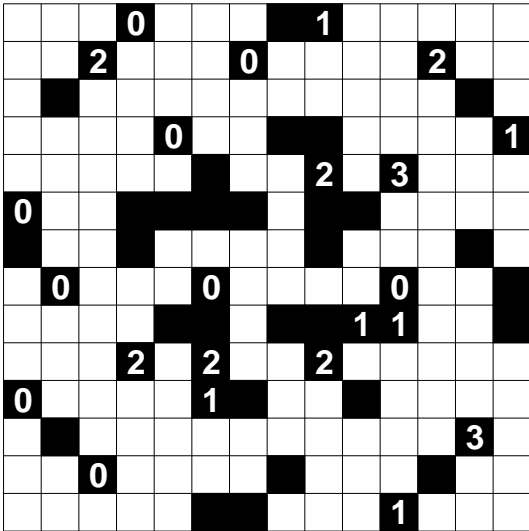


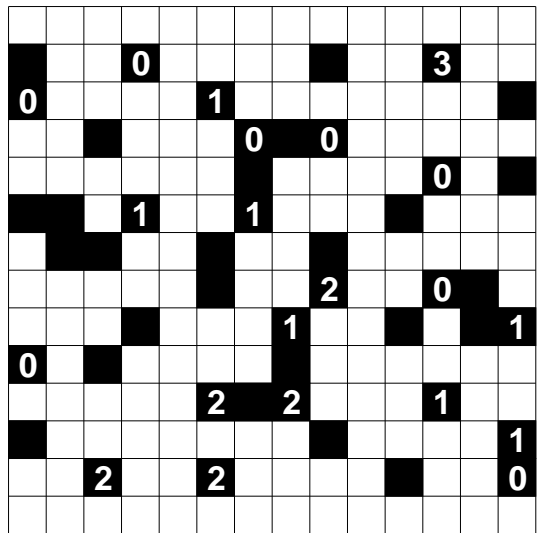
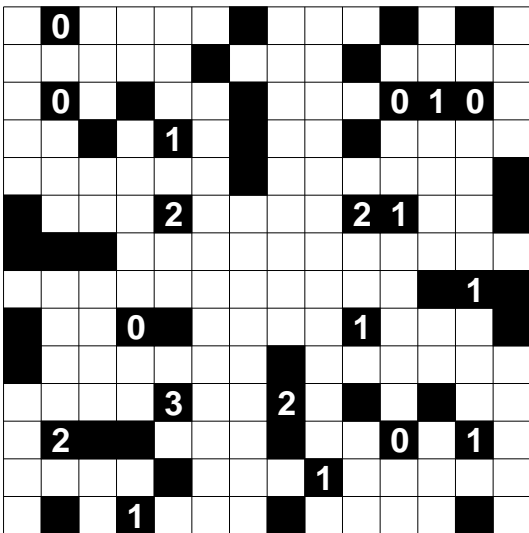
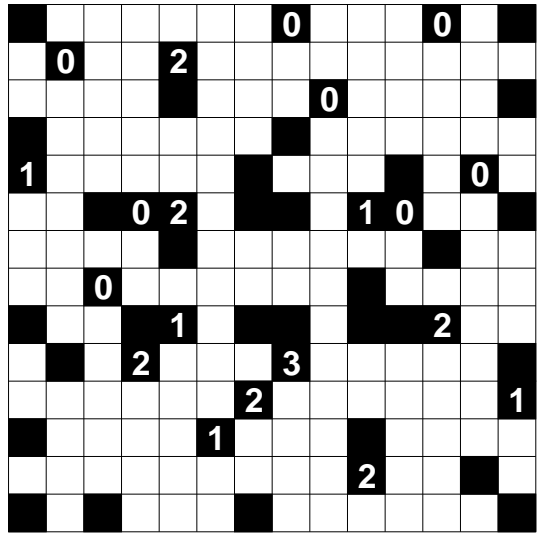
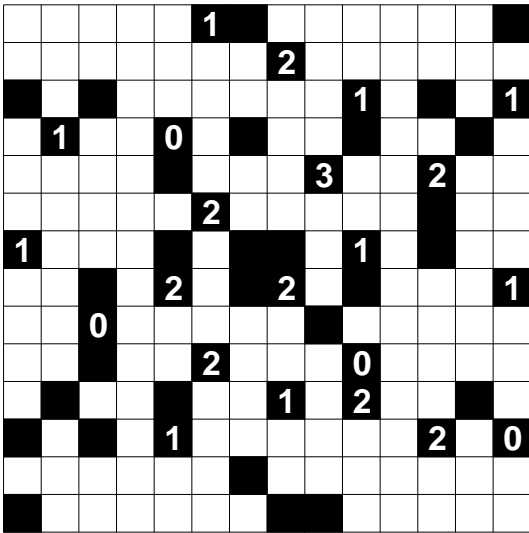
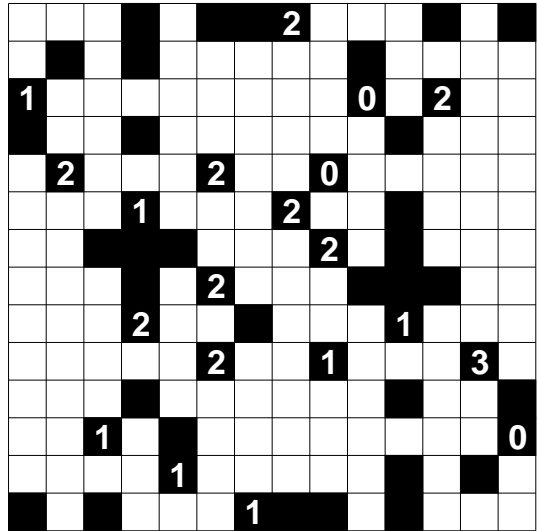
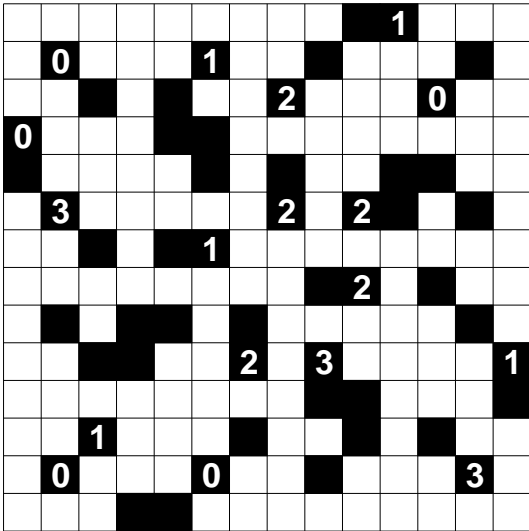
11



12



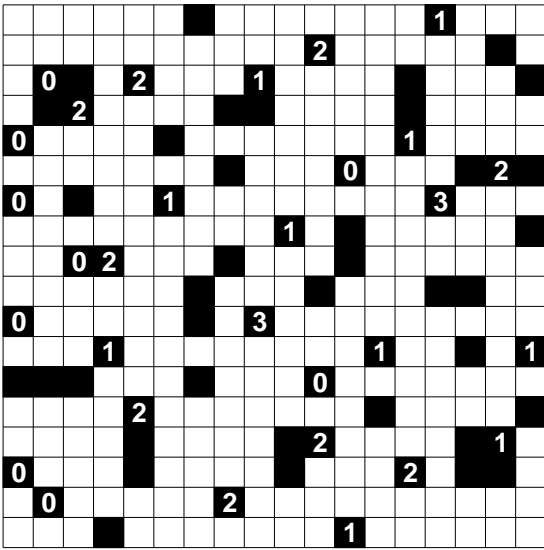




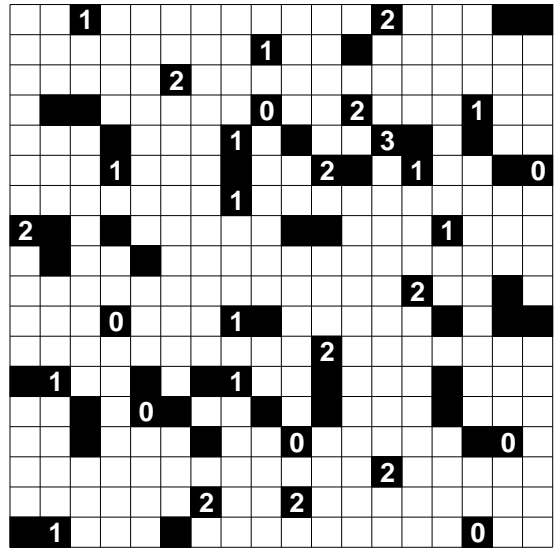
Light Up

18 × 18

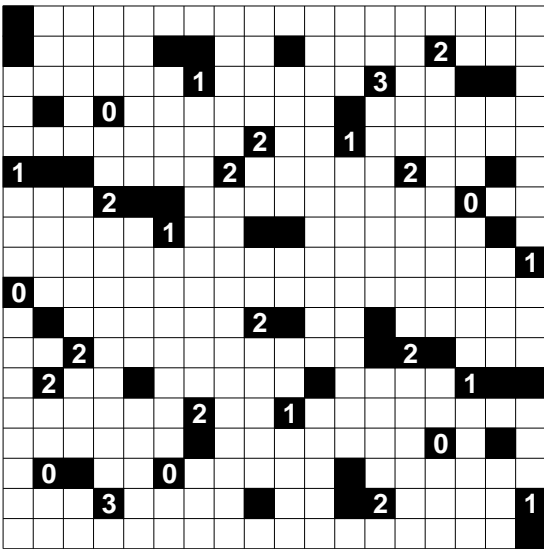
1



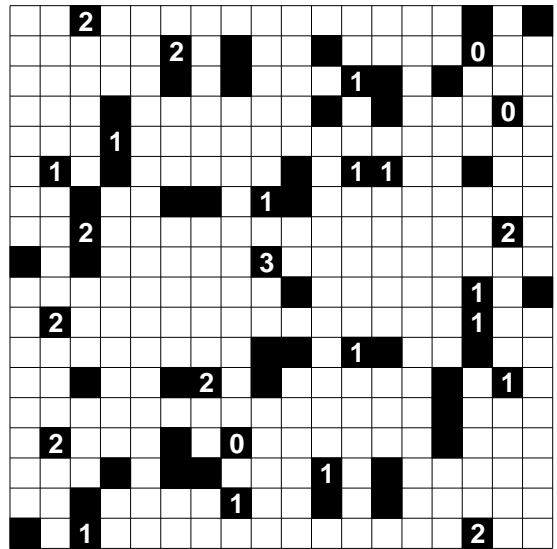
2



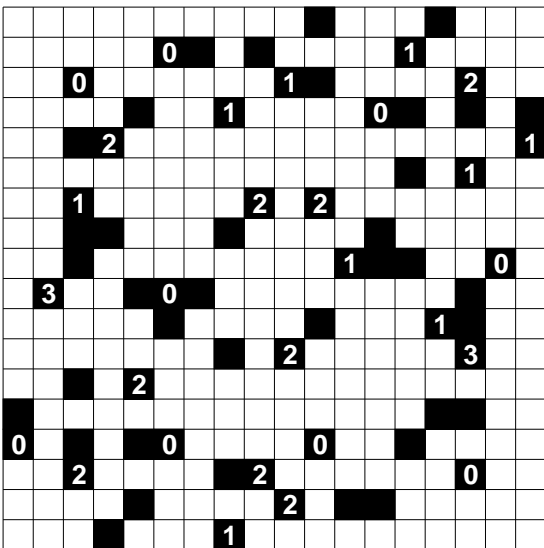
3



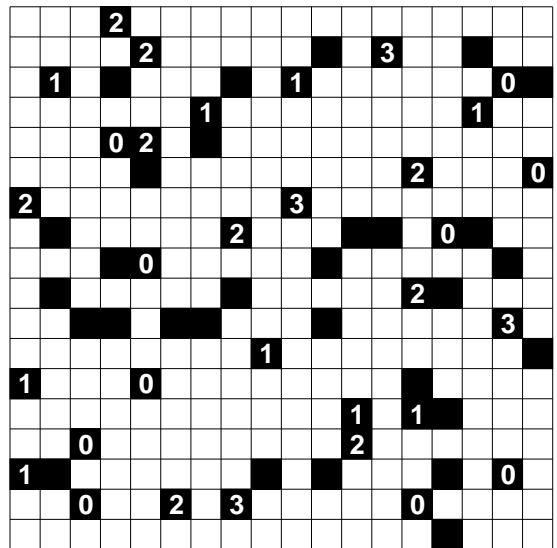
4



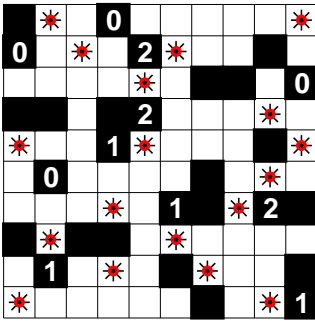
5



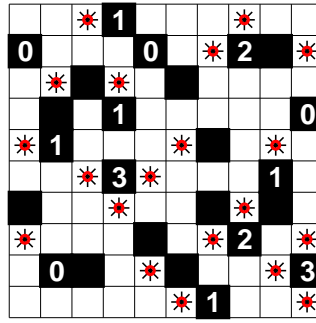
6



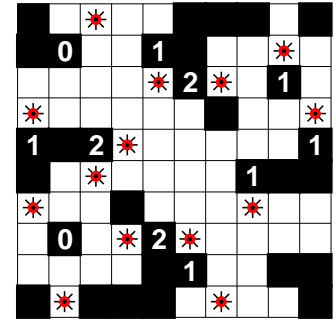
Light Up solutions 10×10



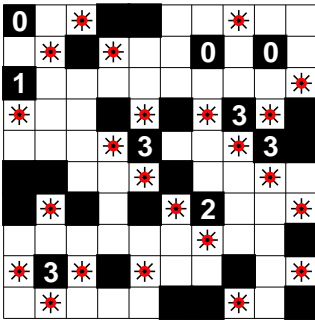
1



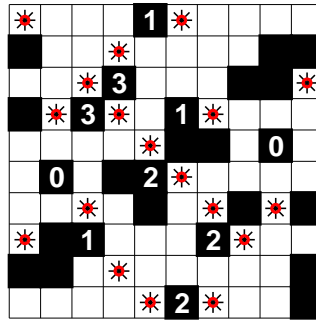
2



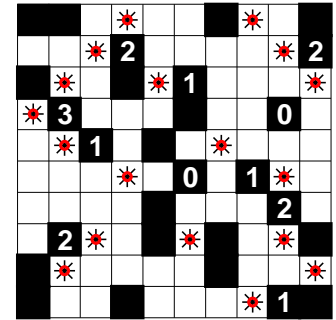
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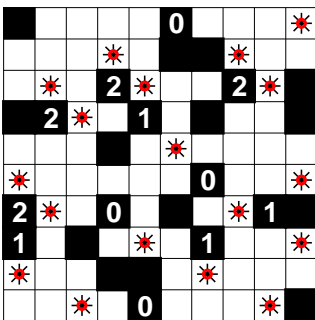
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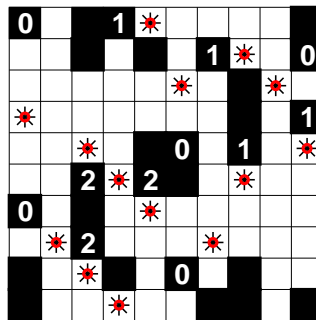
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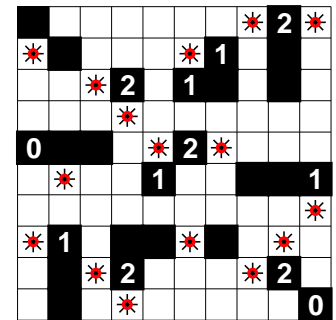
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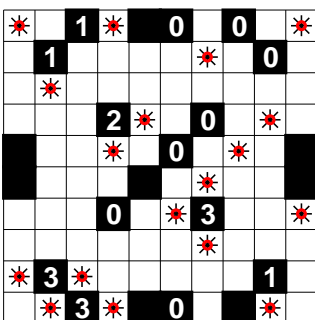
7



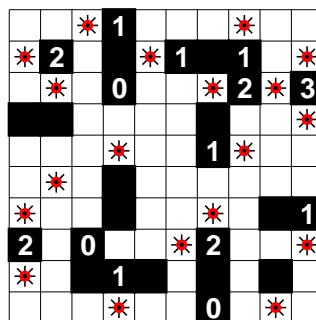
8



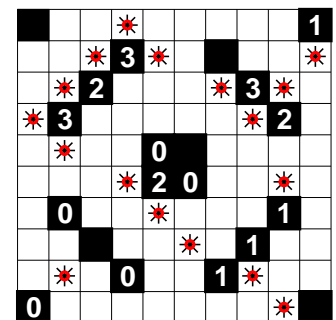
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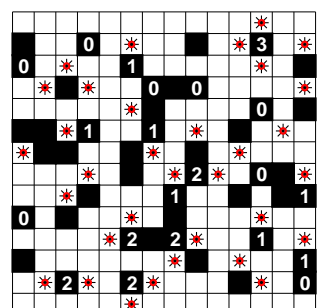
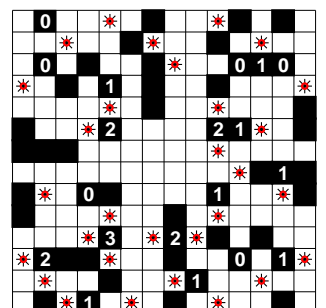
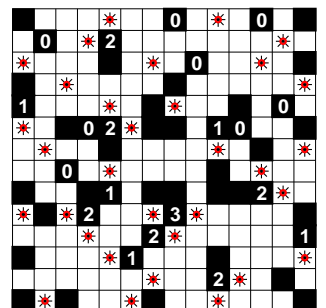
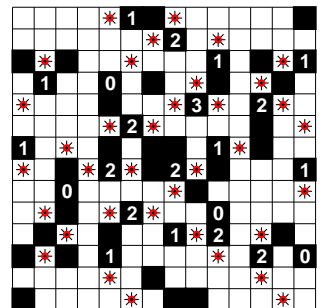
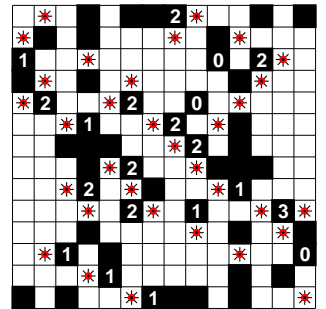
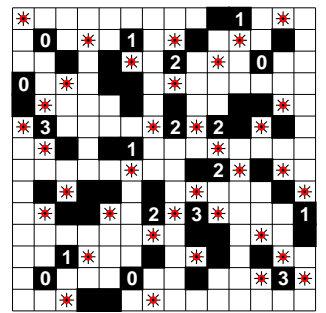
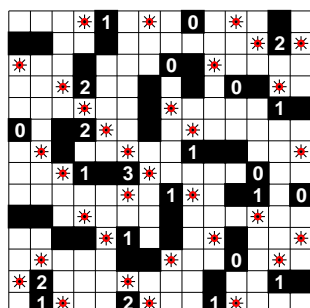
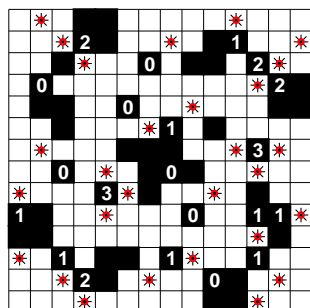
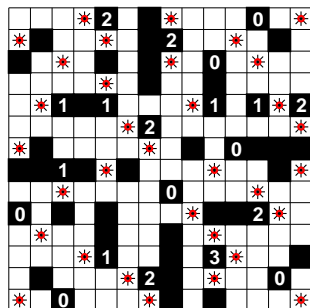
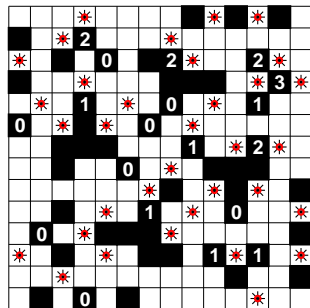
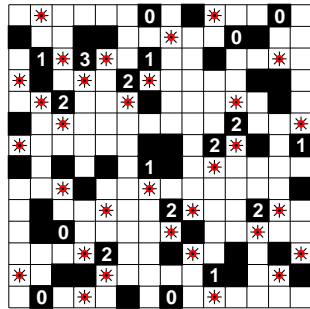
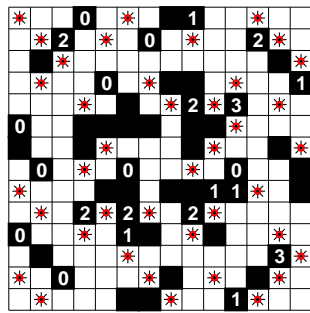
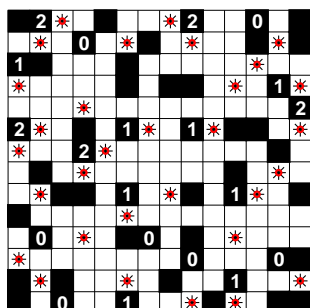
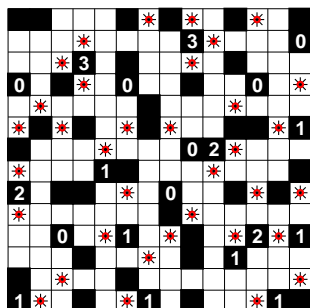
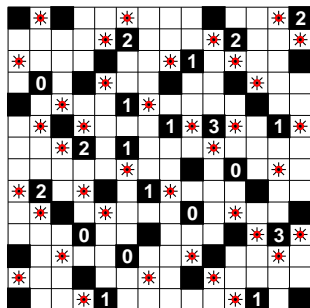
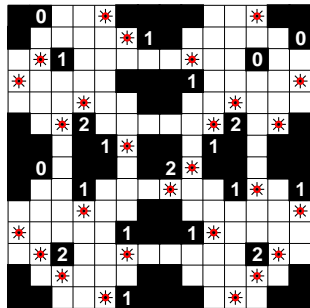
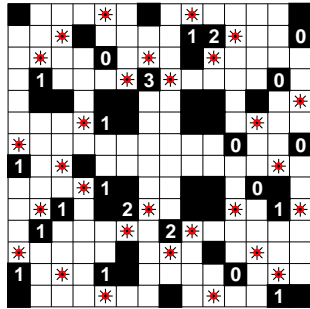
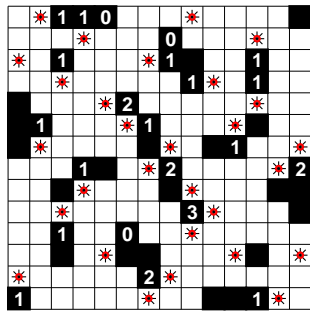
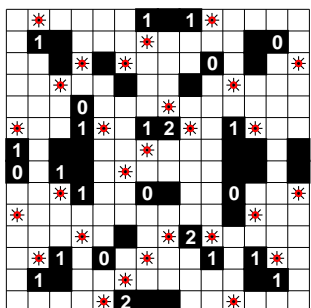
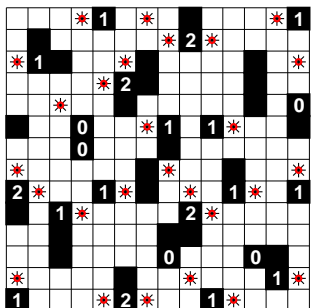
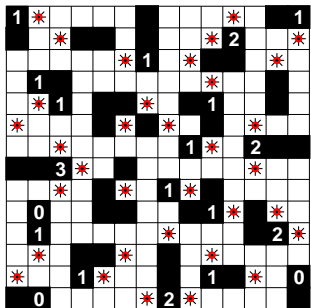
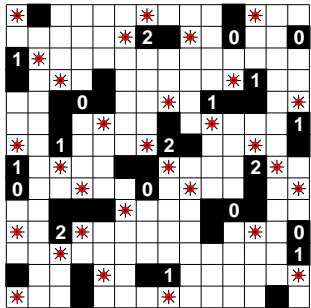
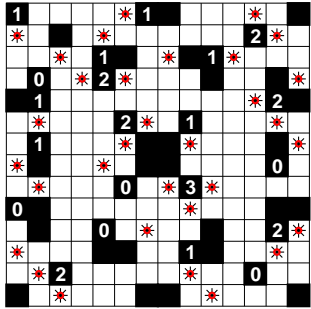
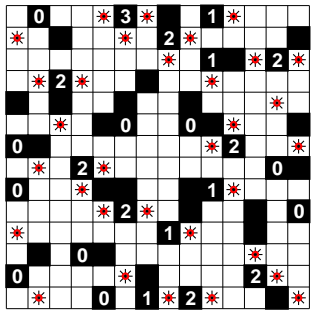
10



11



12

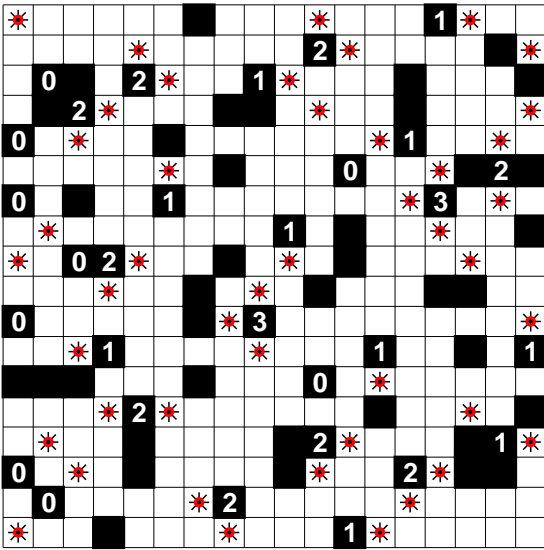


Light Up

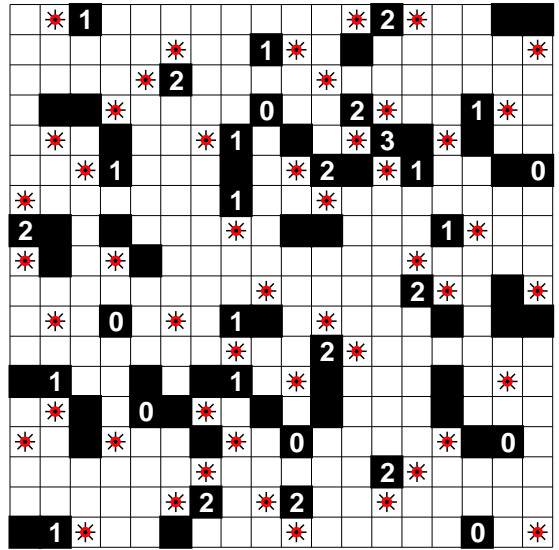
solutions

18 × 18

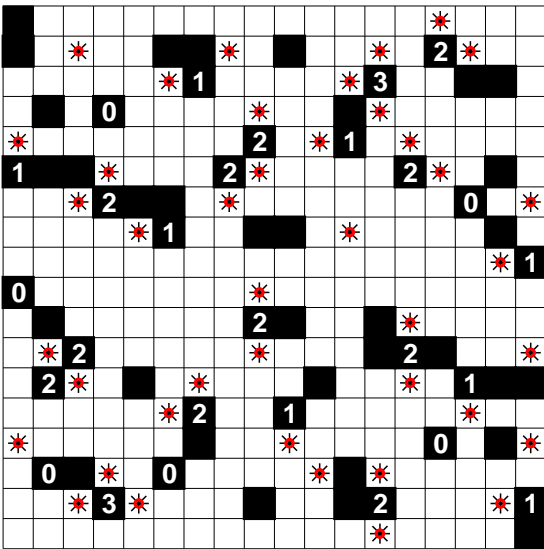
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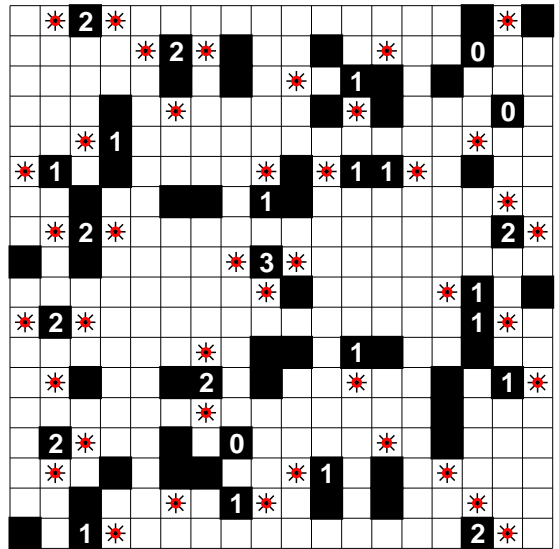
2



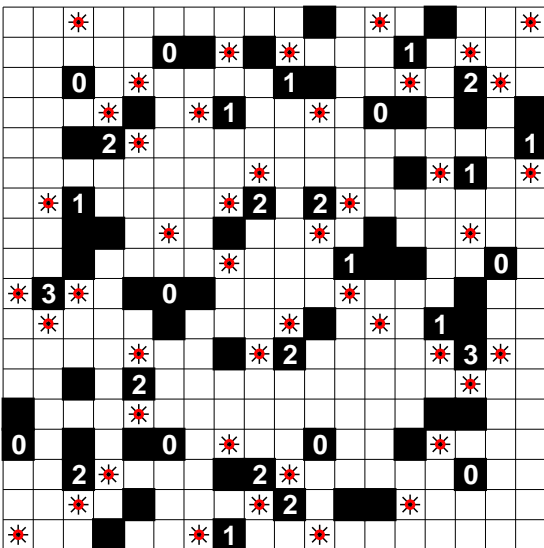
3



4



5



6

