Slitherlink

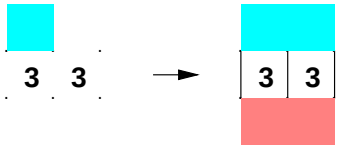
I think that this is the best by a large margin of all the 'topological' logic puzzles. The topology here is a single connected loop within a grid of any size or shape; this loop has to be determined by simple 'givens', numbers which define the number of links along the four edges of the square cells. Only one loop is allowed, so no crossing is permitted at the cell corners.

This puzzle has become popular for the speedsters who aim to solve quite large puzzles against the clock as an on-line activity. The software allows rapid repair of the diagram following a failed development which, if attempted on paper, would soon make an unintelligible mess. The examples given here are made at a level fit for pencil & paper execution, making this puzzle available for a new clientelle.

Sometimes these puzzles have appeared in the newspapers, often around Christmas, with the misguided hope that a number of small puzzles will catch on, but as these small examples are usually excruciating they are counter-productive. With larger puzzles the problems of connectivity become more apparent, and these problems can be most alluring. With simple rules it may be thought that no guidance is necessary, but I think there is one aspect which seems always to be ignored which transforms this puzzle.

The topology is simple – the loop has an inside (pink will do) and an outside (blue is fine). You should aim to find the links, but also to shade the cells pink or blue, as sometimes the shading procedure is the best way forward. Often you will find single undecided cells surrounded by colour, and the decision – pink or blue? – depends on the overall connectivity. Aiming to determine both the shading and the links makes this problem a delight. The shading objective is used in a version of this puzzle, **Wolves & Sheep**, where you are given cells with wolves – in the blues – and other cells with sheep – in the pink – and you have to keep the sheep enclosed, safe from the predators; this is simply a different way of presenting the puzzle's givens.

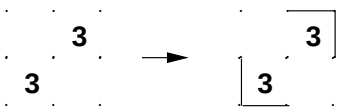
Now a few hints: A couple of 3s side by side give:



and if you have any colour information, such as the blue square:

If there is a link to one corner of a 3, then:

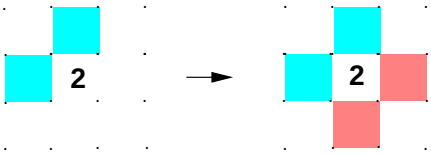
and then



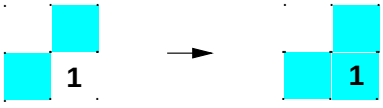
follows if there are two 3s arranged diagonally.

If a 3 (or a 2) have two links and a diagonal 2 as shown, then:

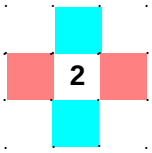
If a 2 has two neighbours of the same colour, then:



If a 1 has two neighbours of the same colour, then:

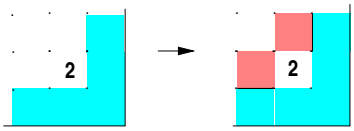


At some stage you might have this arrangement:

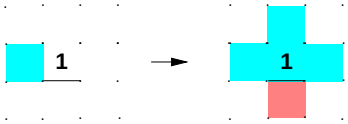


and you might have to do a lot more of the puzzle before finding which colour to use, as this will depend on the overall connectivity.

You might have a 2 in the corner. In this case you use the fact that the colour outside the puzzle is always a single colour.



If you have a 1, a link, and a colour, there will be some more colours that you can add, for example:



You'll find some more patterns to remember, so now is the time to get going! First some 10×10, but mostly of size 18×14 which is about right for the most pen & paper enjoyment. I have added some larger puzzles which have a higher proportion of 0 givens (as have the 10×10) – I used to think these made the puzzles easier, but I am not so sure now after trying some of these new creations!

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	2	2											
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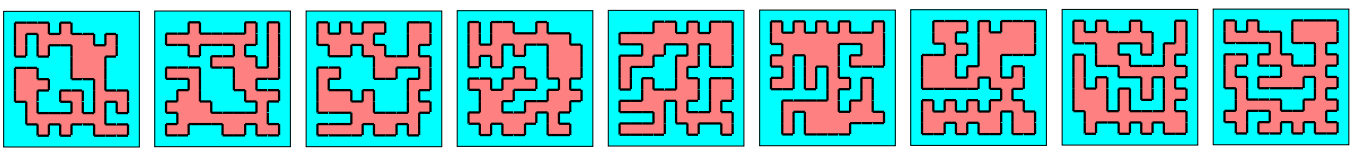

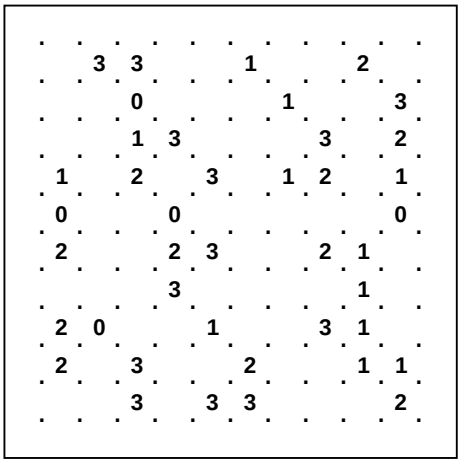

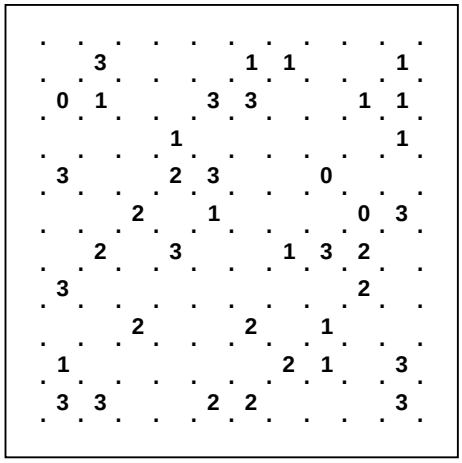

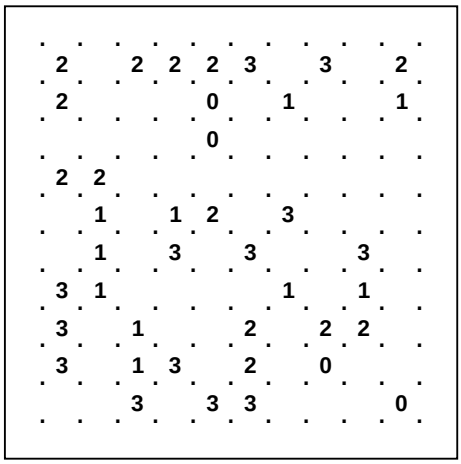

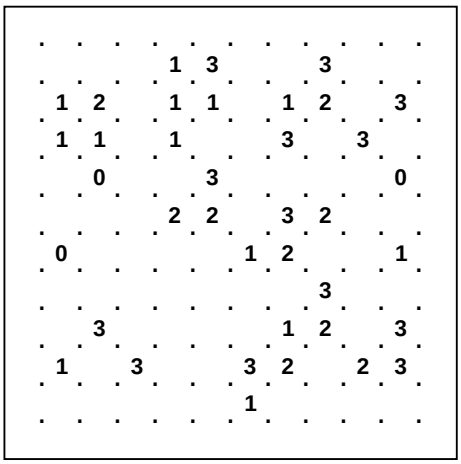

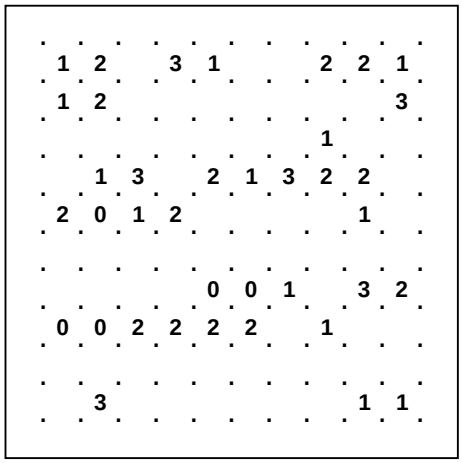

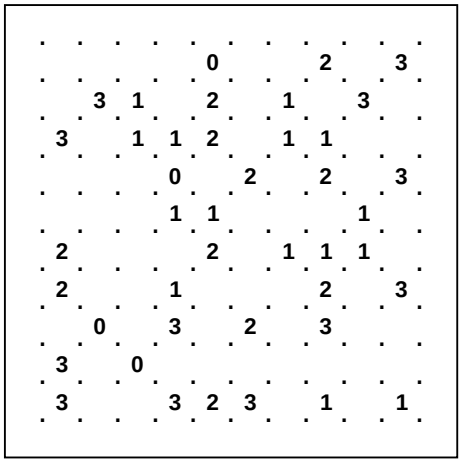

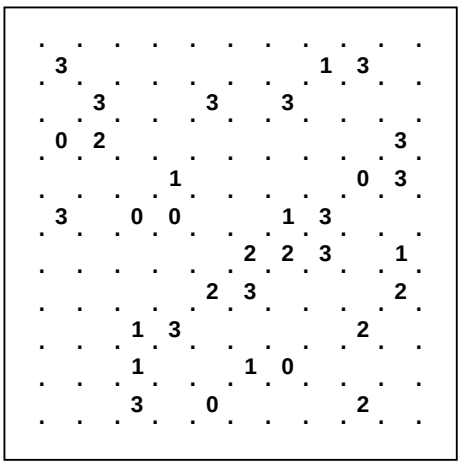

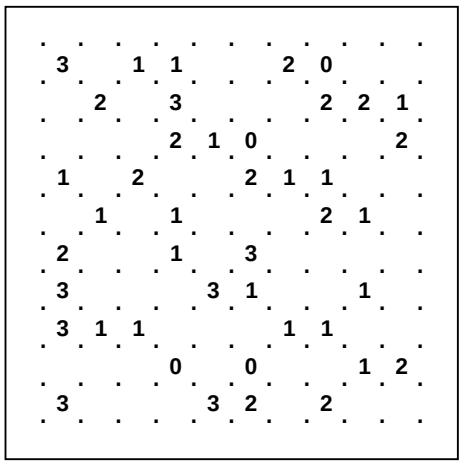

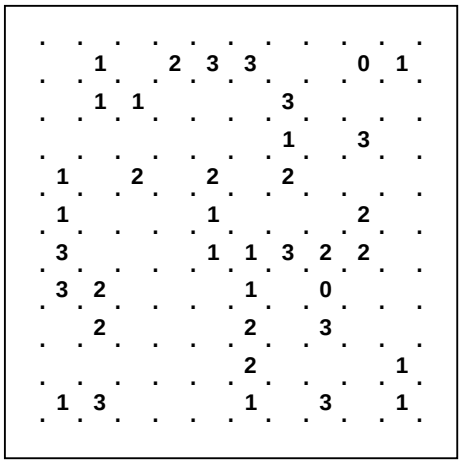

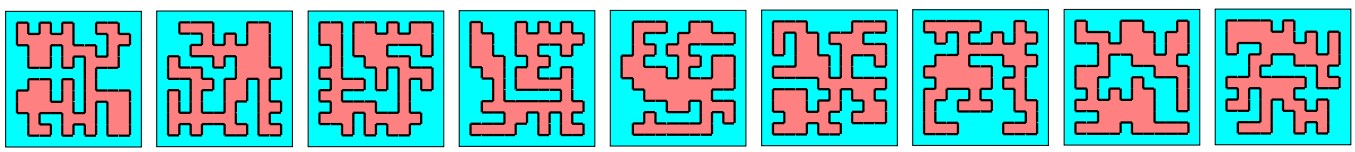

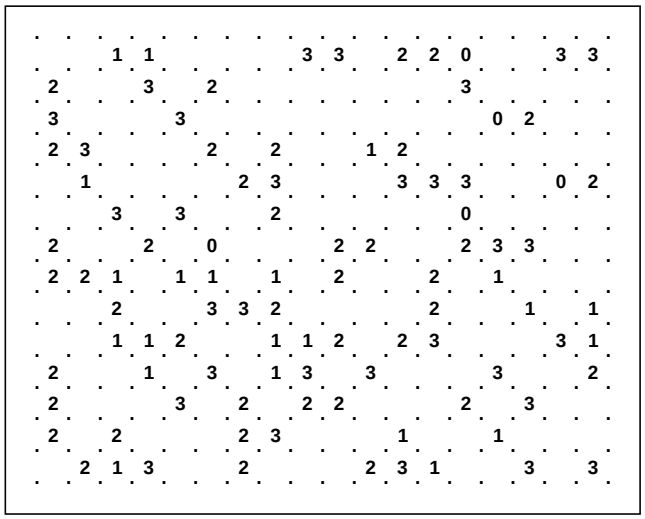

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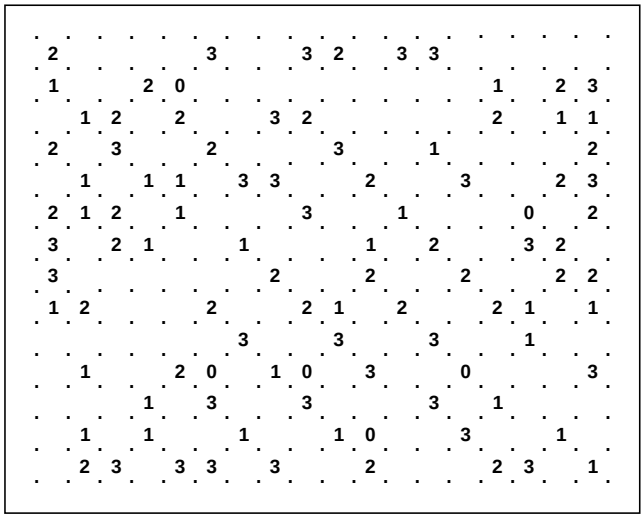

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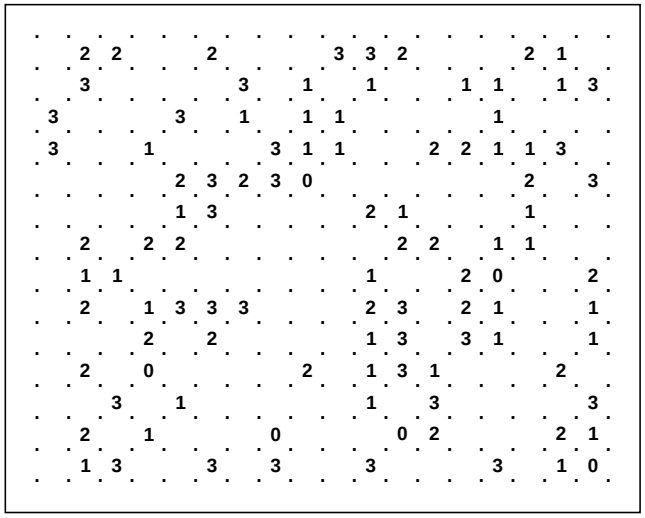

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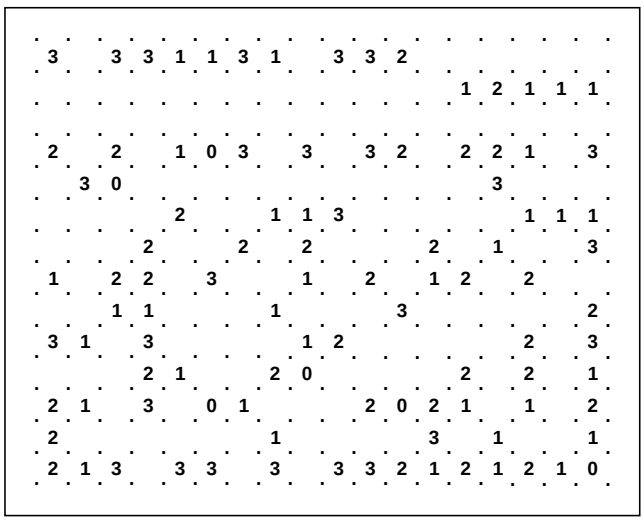

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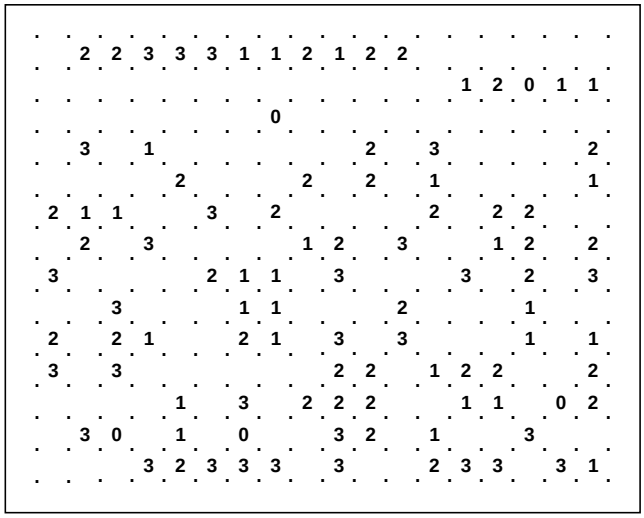

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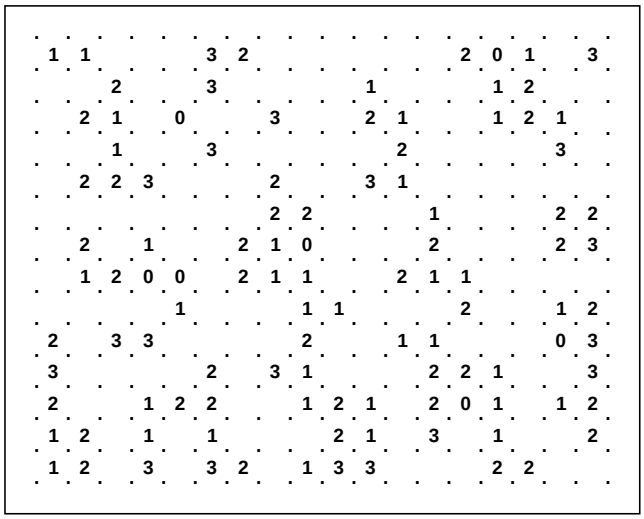

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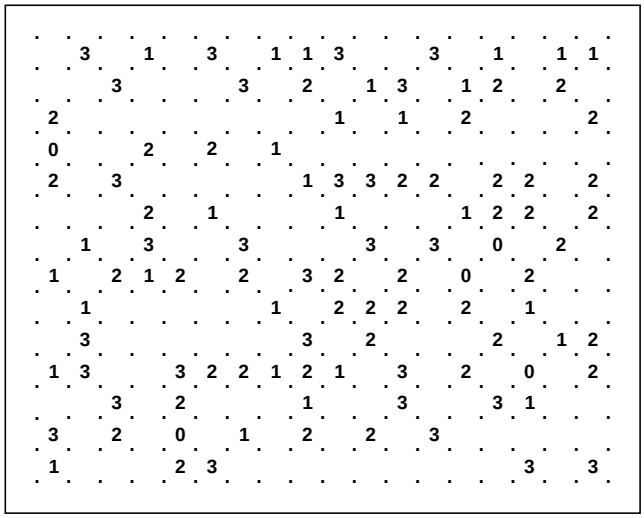

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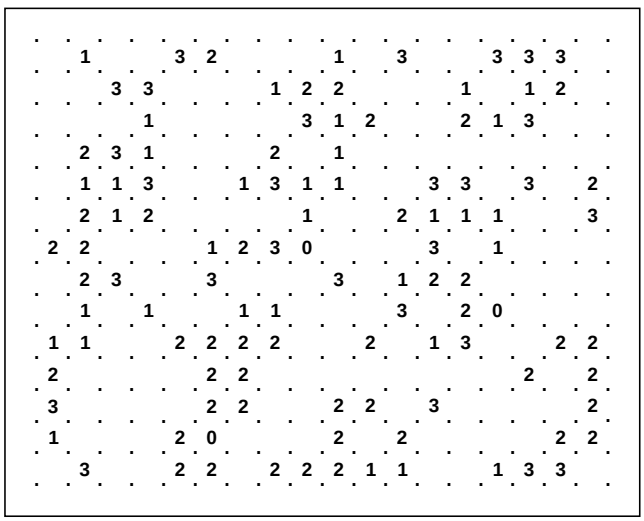

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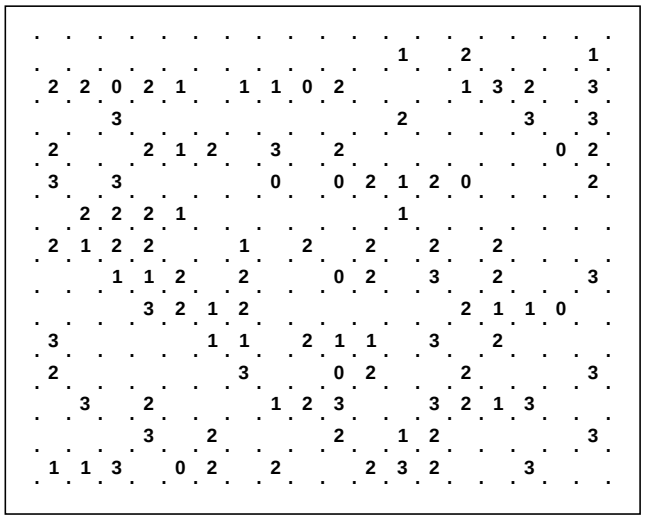

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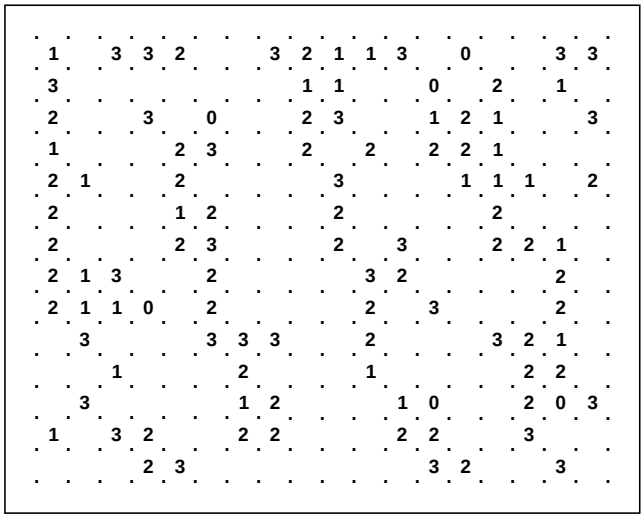

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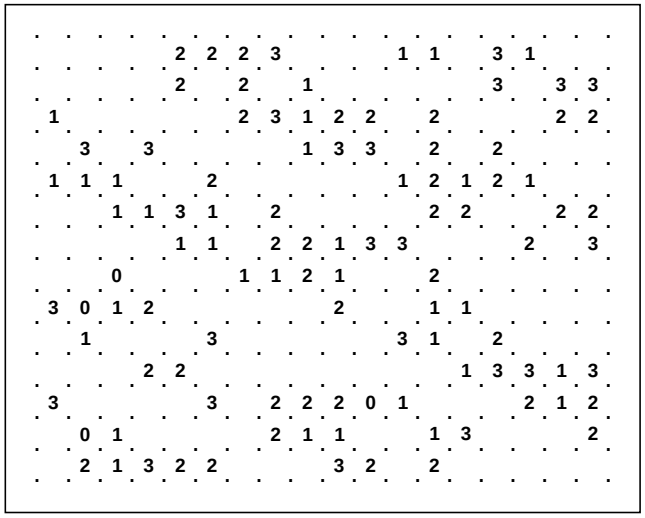

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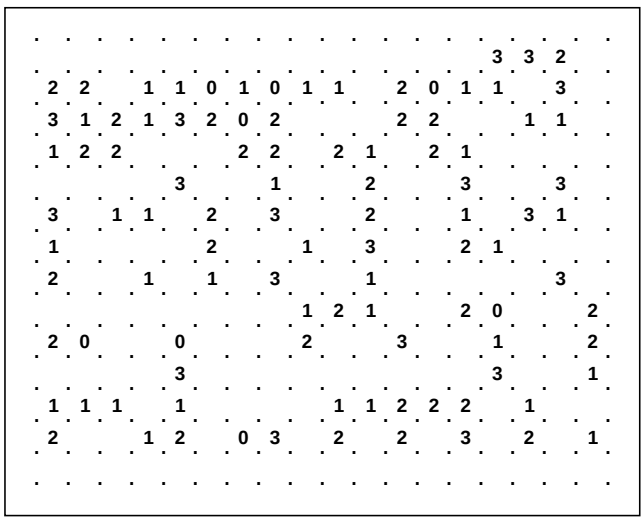

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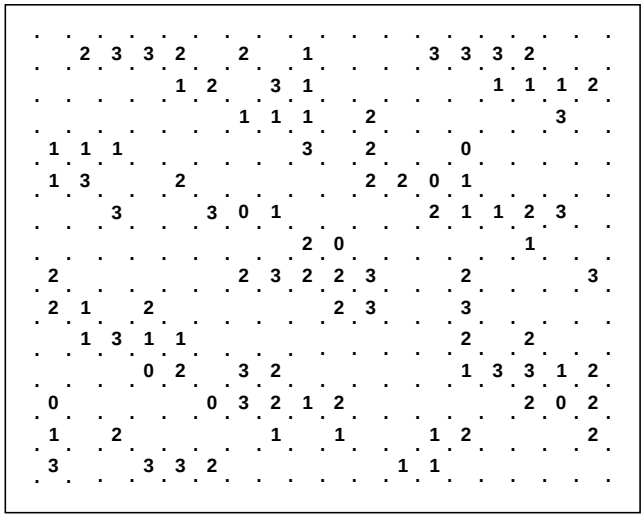

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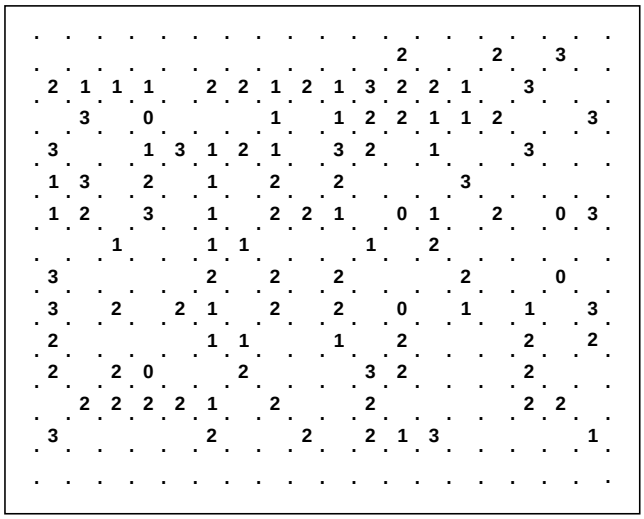

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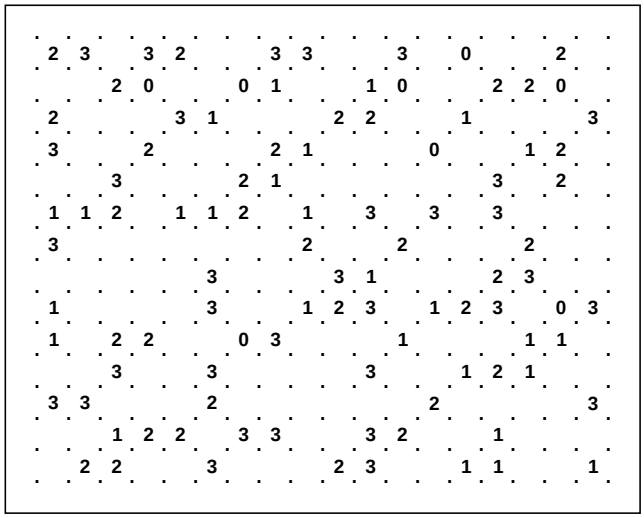

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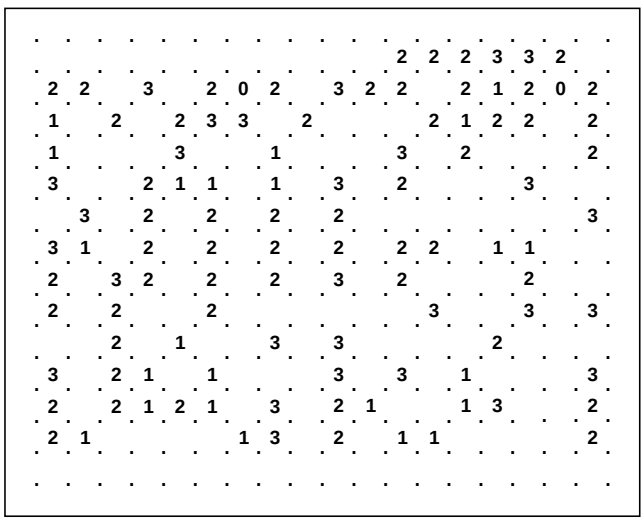

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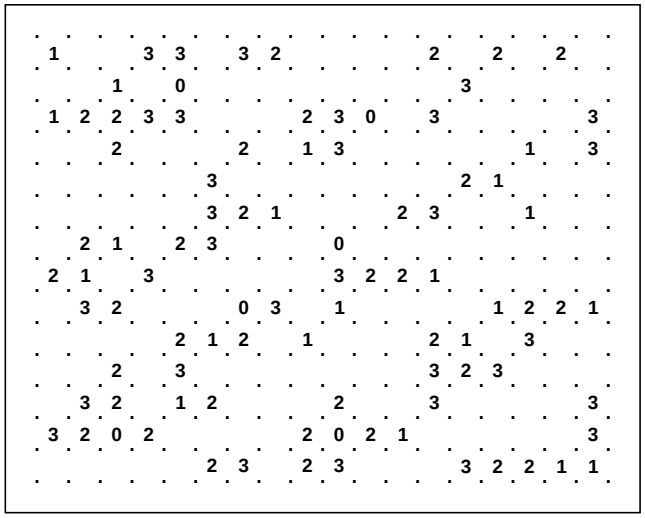

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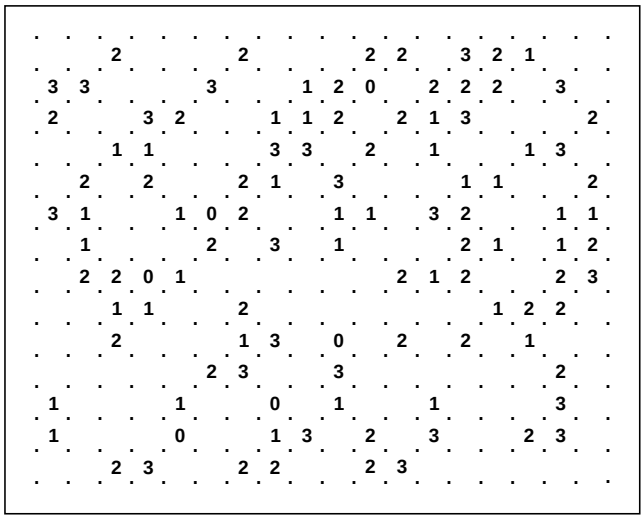

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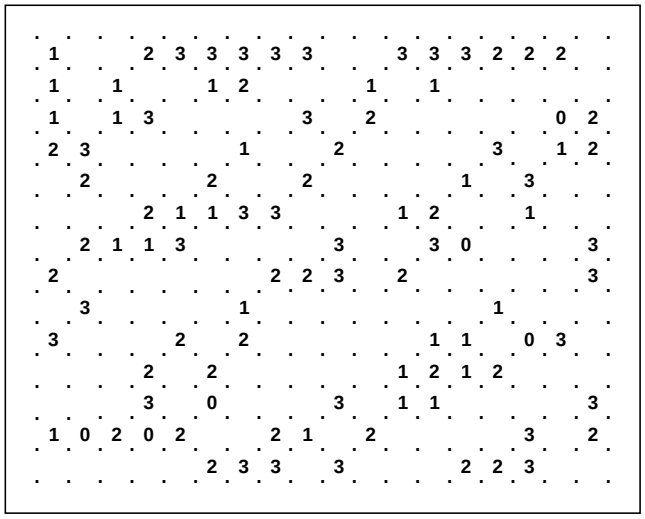

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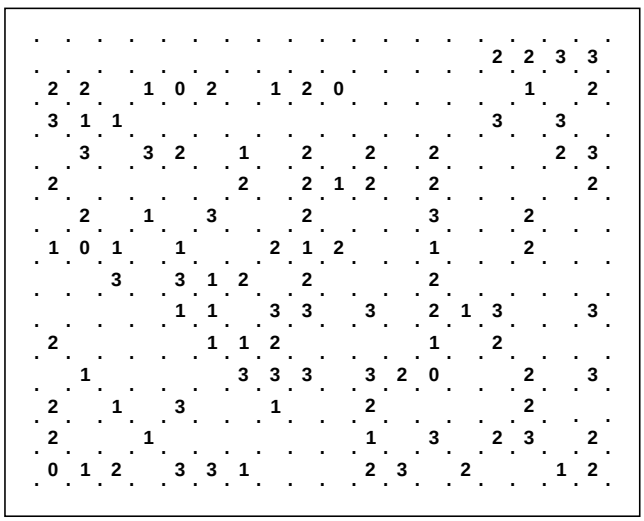

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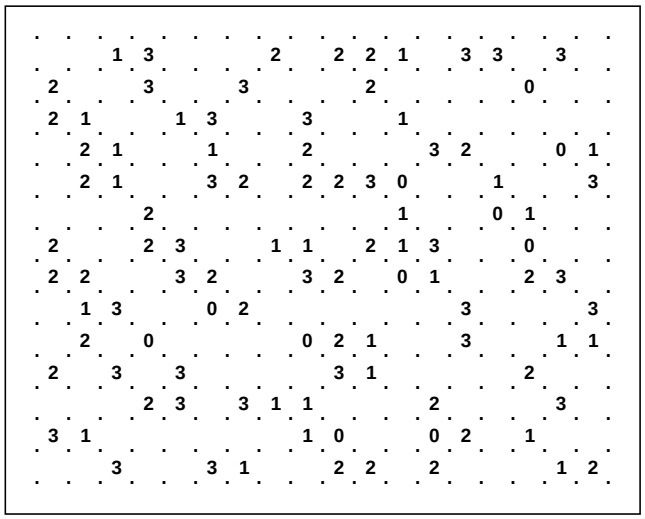

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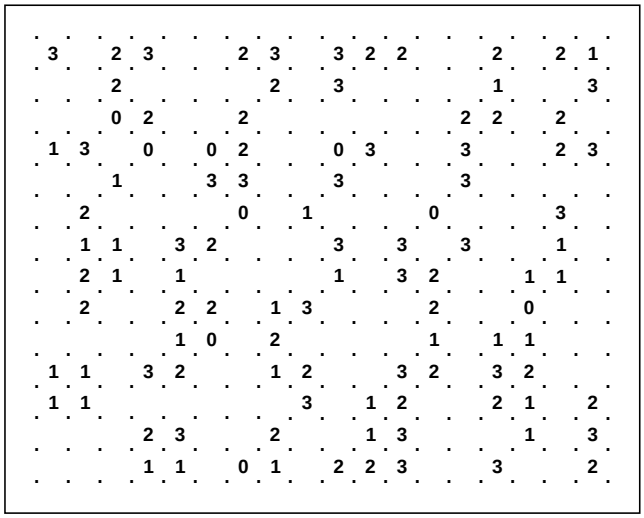

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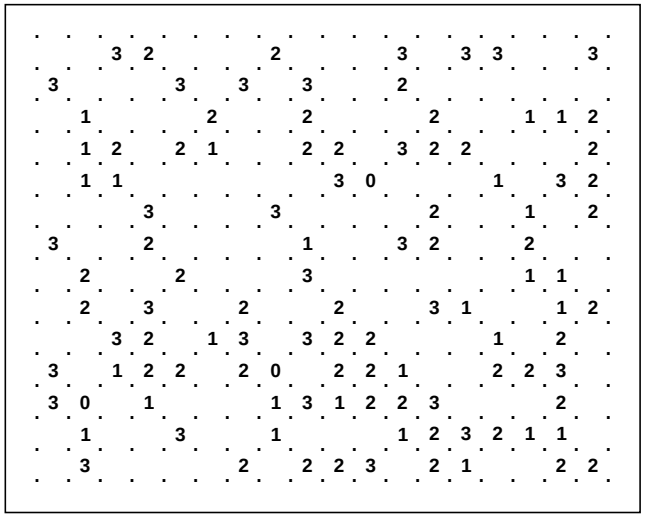

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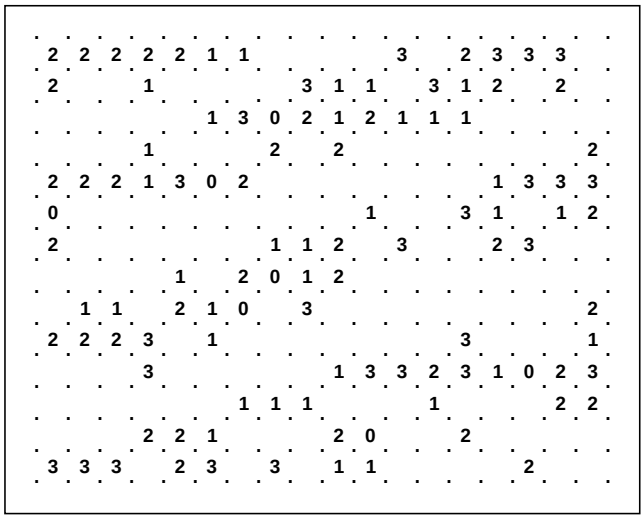

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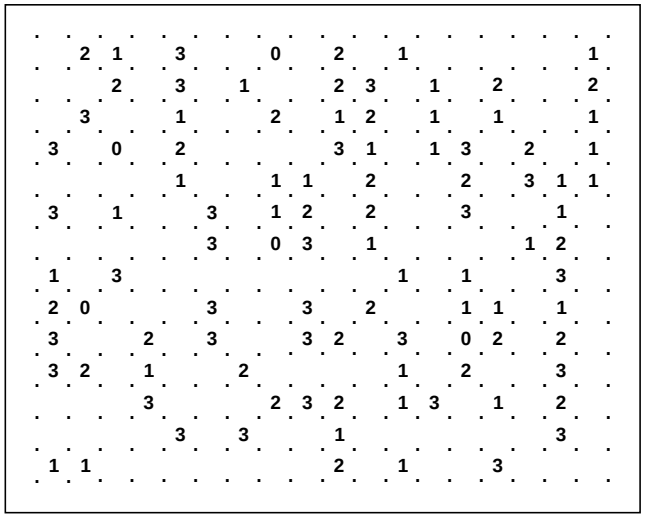

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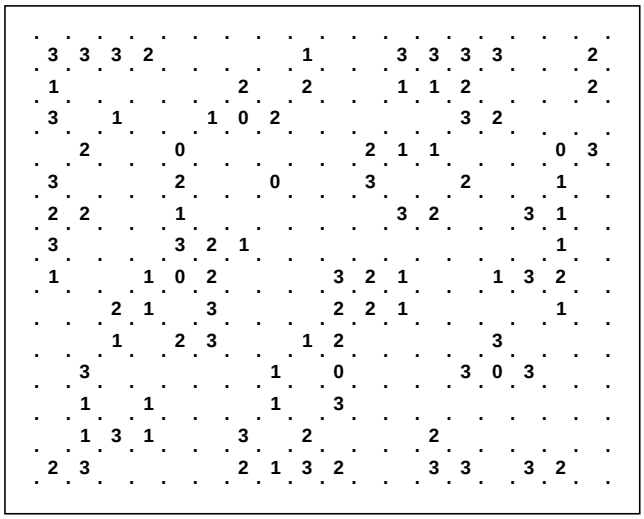

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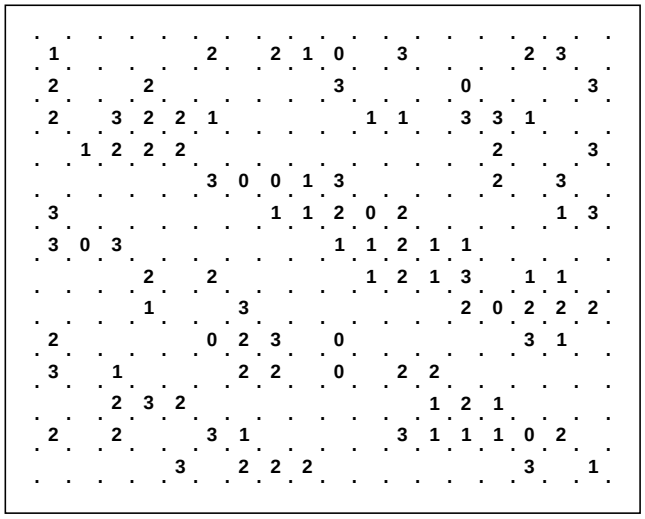

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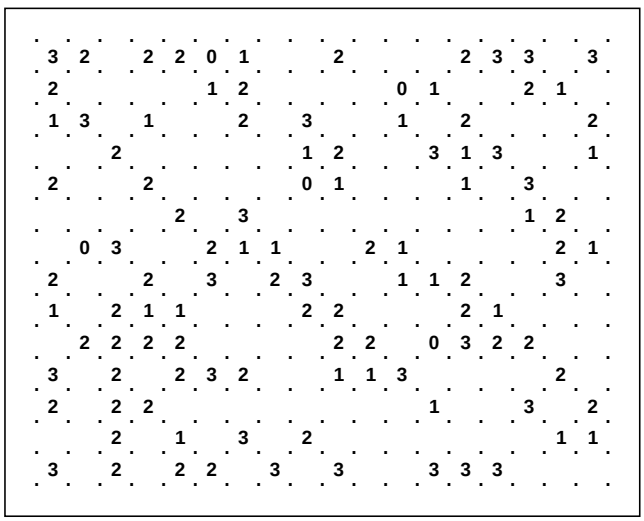

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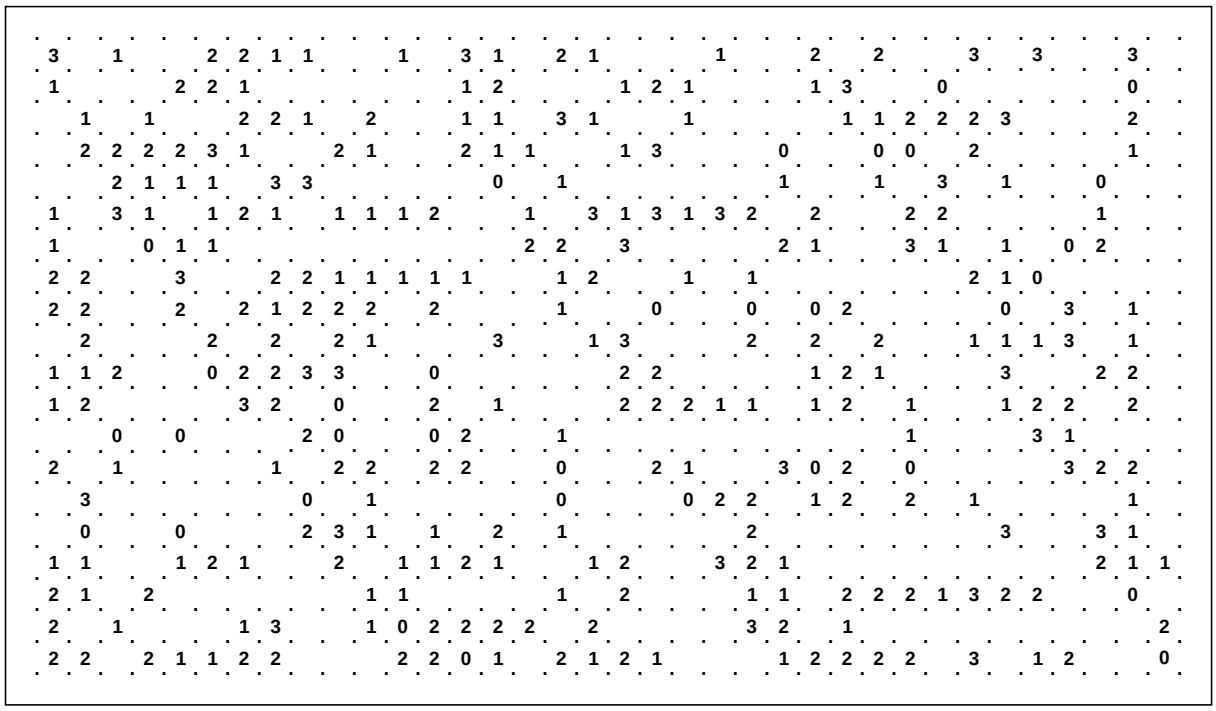
Slitherlink 36×20



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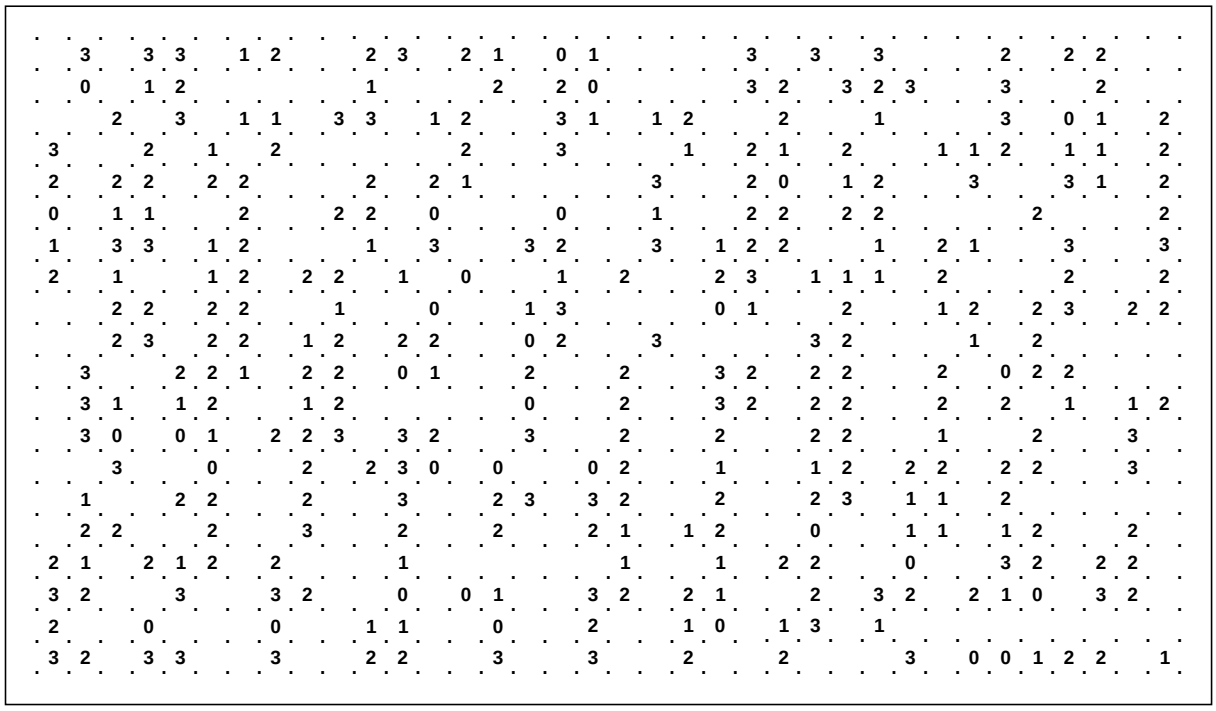

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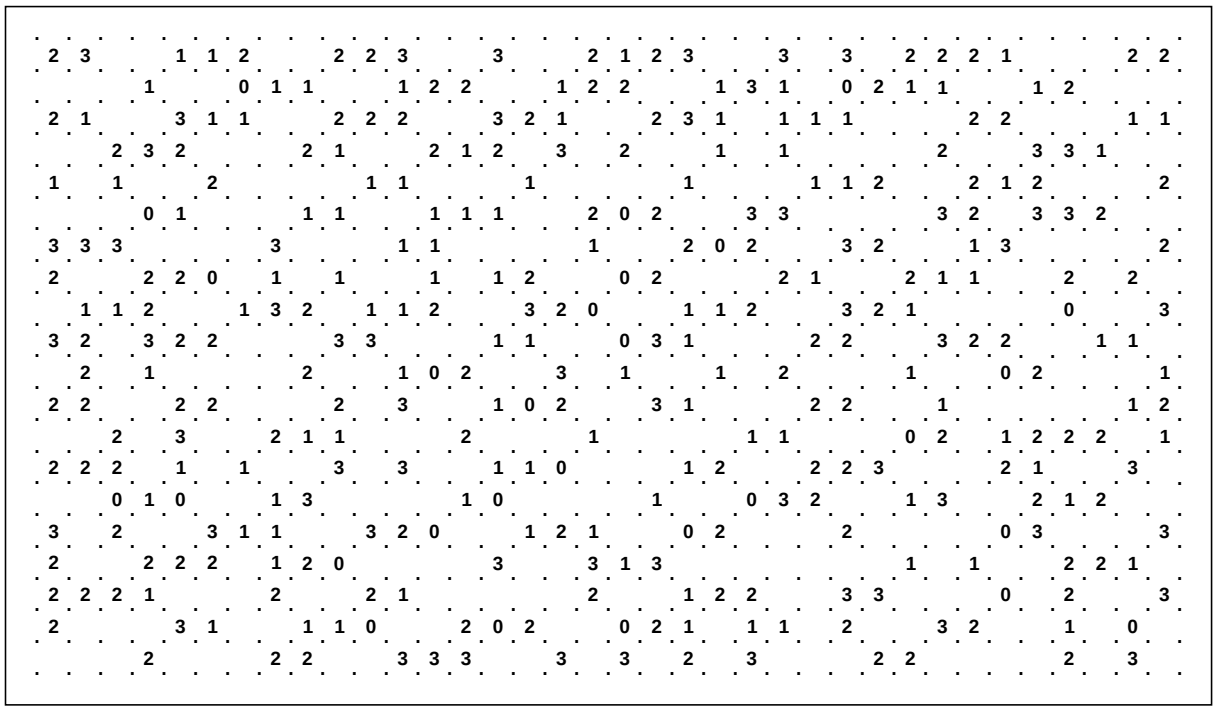

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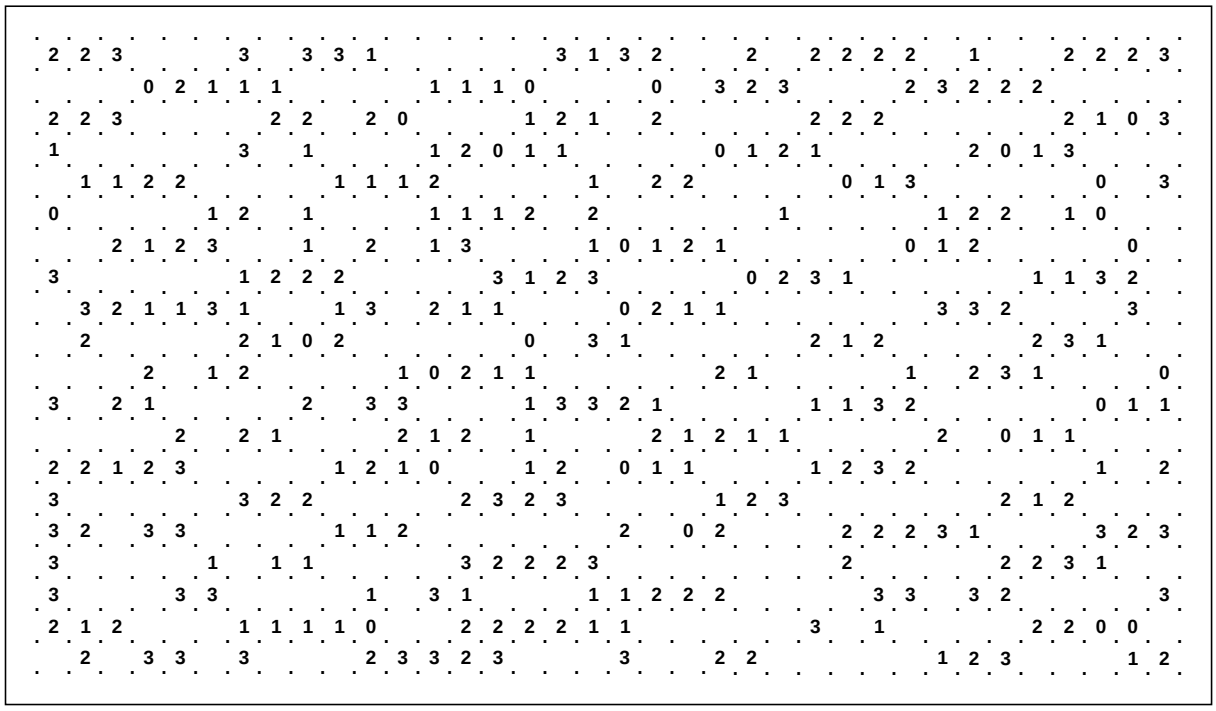

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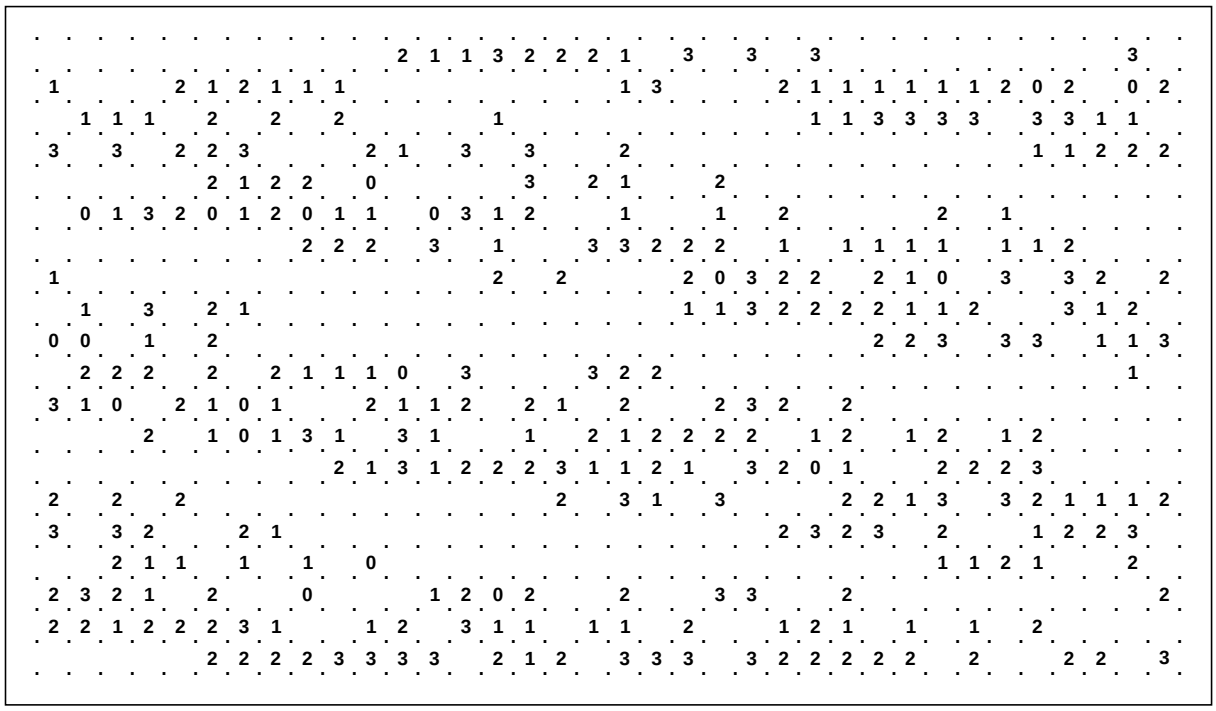

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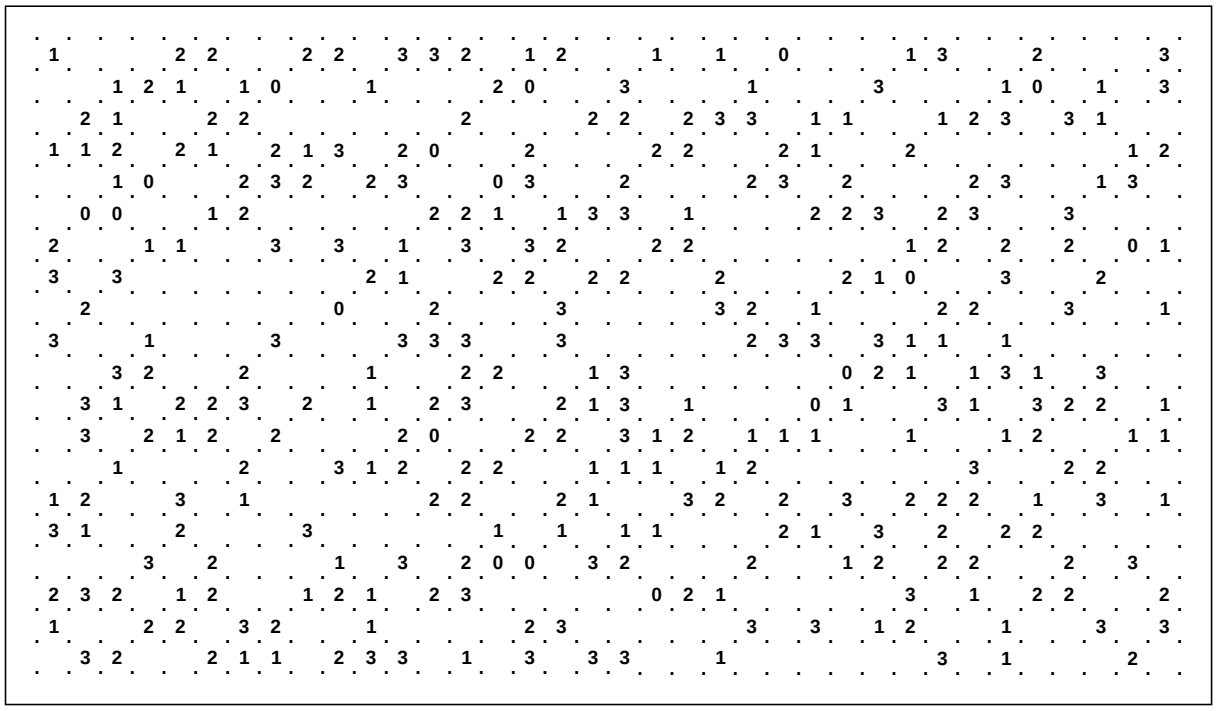

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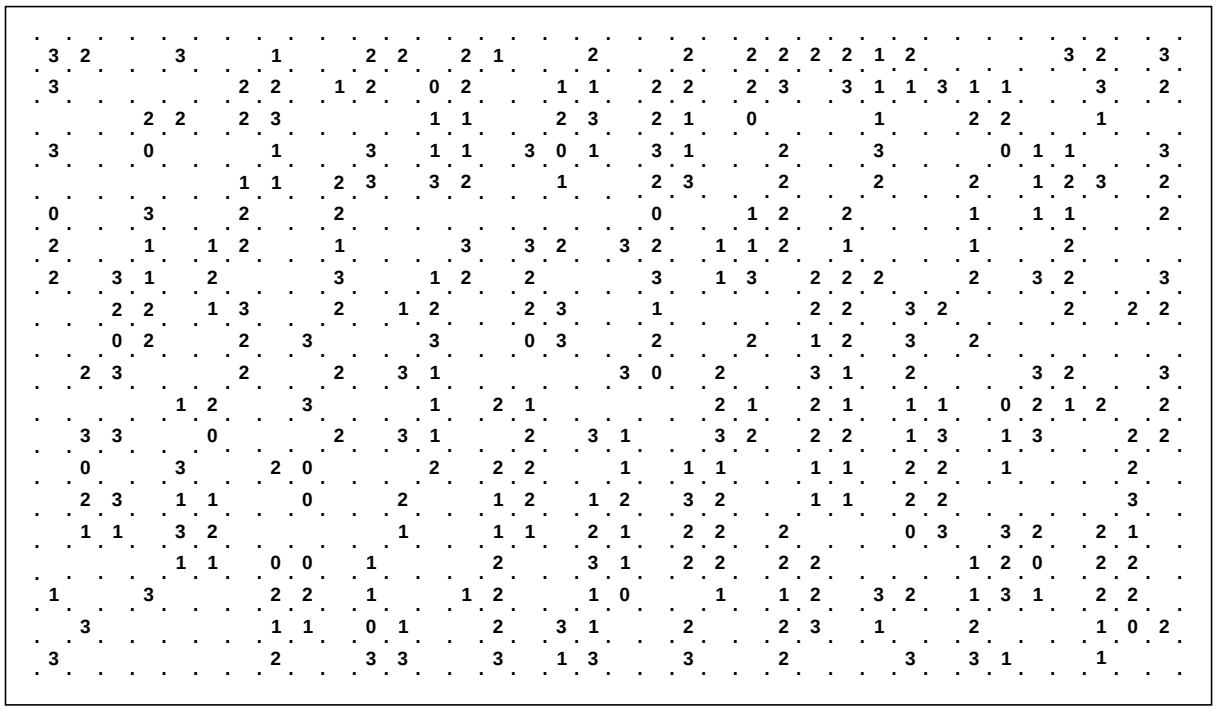

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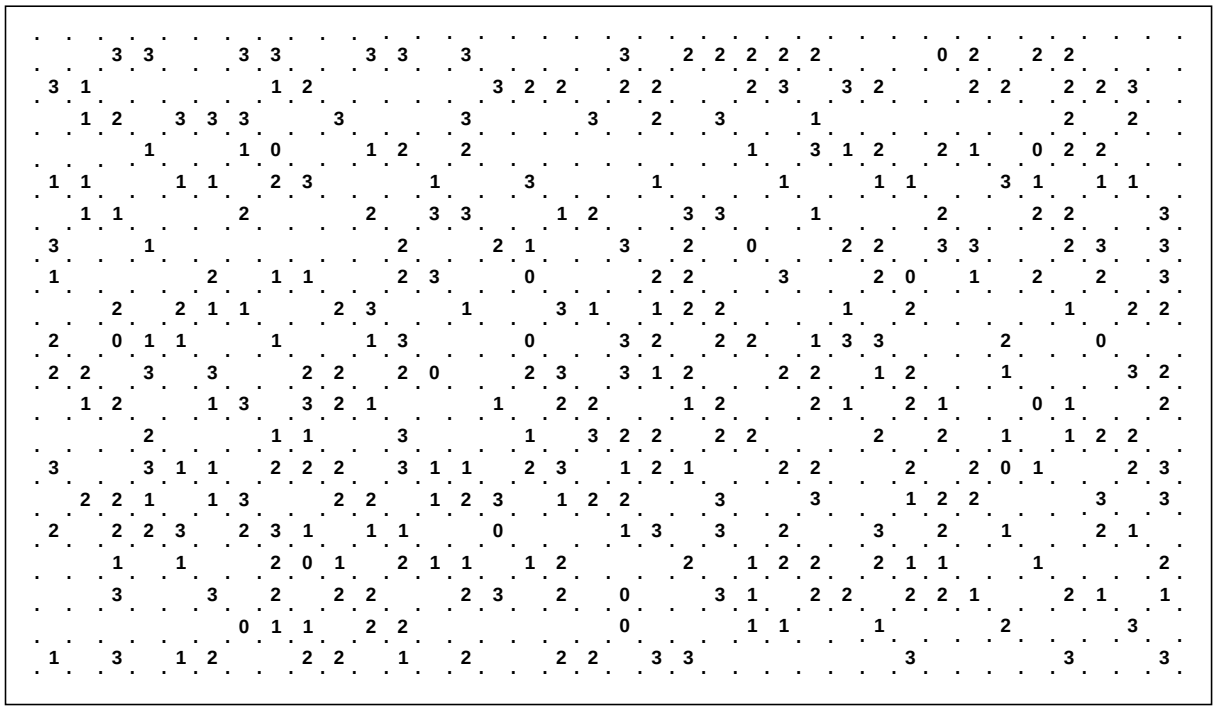

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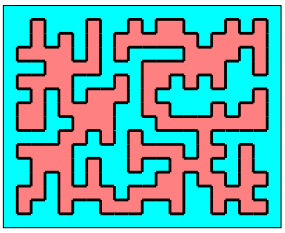
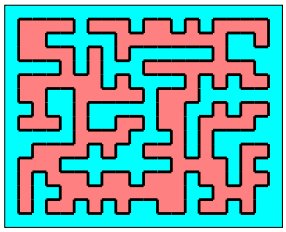
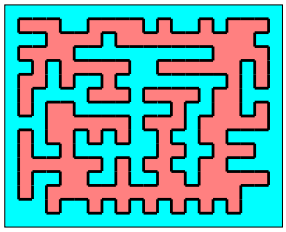
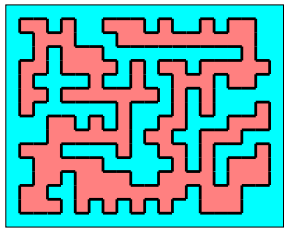
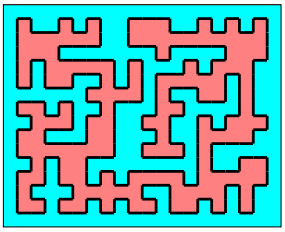
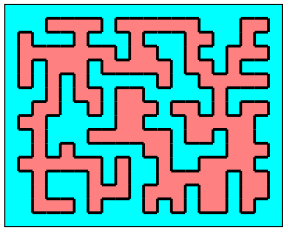
1 

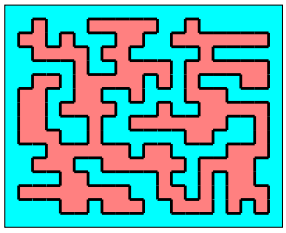
2 

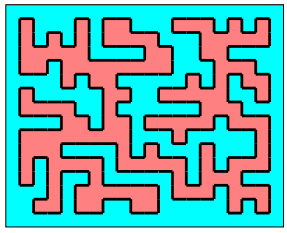
3 

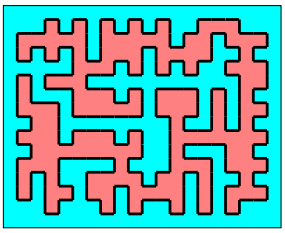
4 

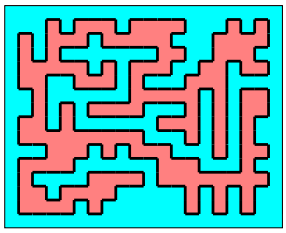
5 

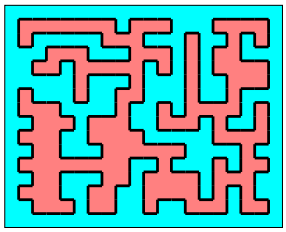
6 

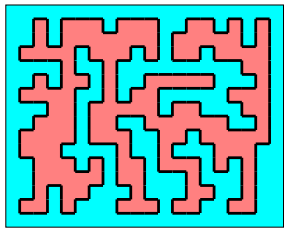
7 

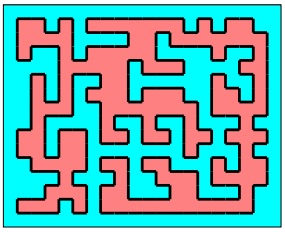
8 

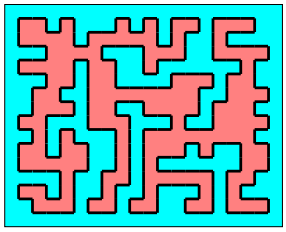
9 

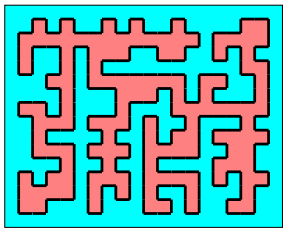
10 

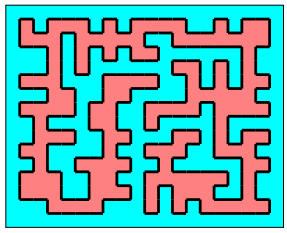
11 

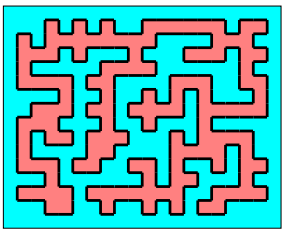
12 

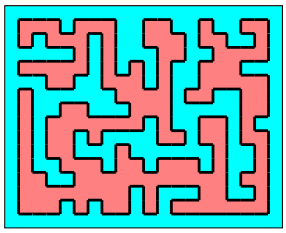
13 

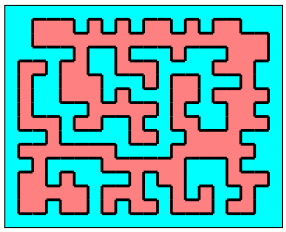
14 

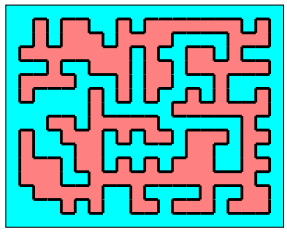
15 

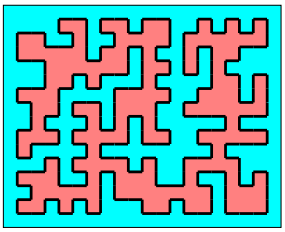
16 

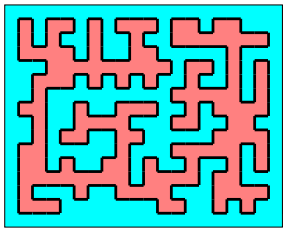
17 

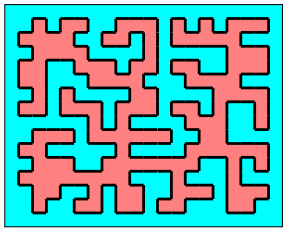
18 

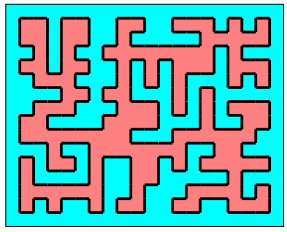
19 

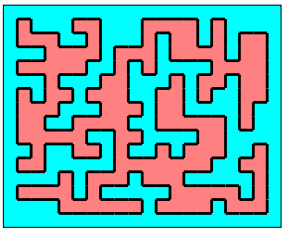
20 

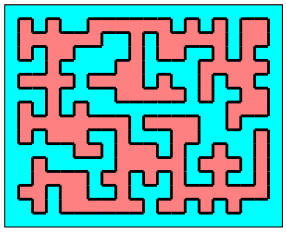
21 

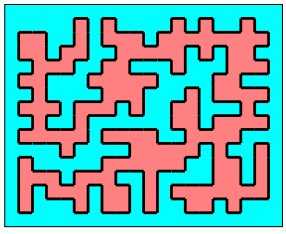
22 

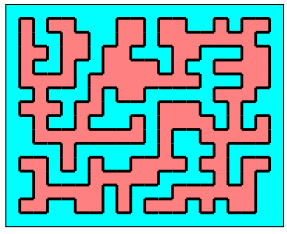
23 

24 

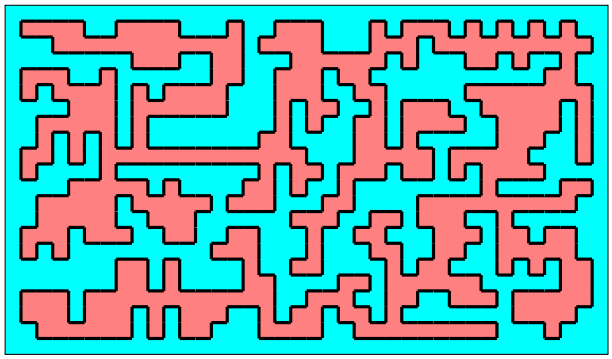
25 

26 

27 

28 

Slitherlink 36 × 20 solutions



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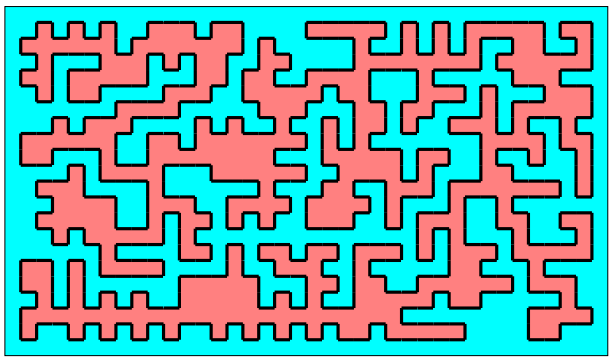

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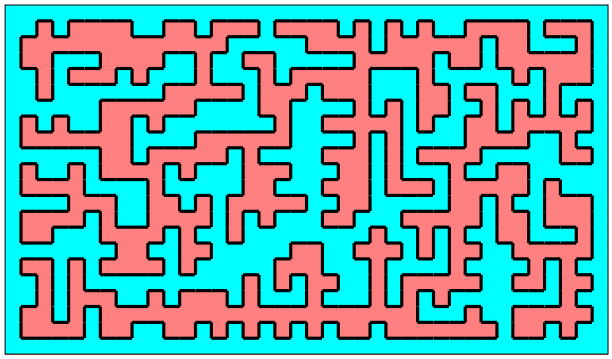

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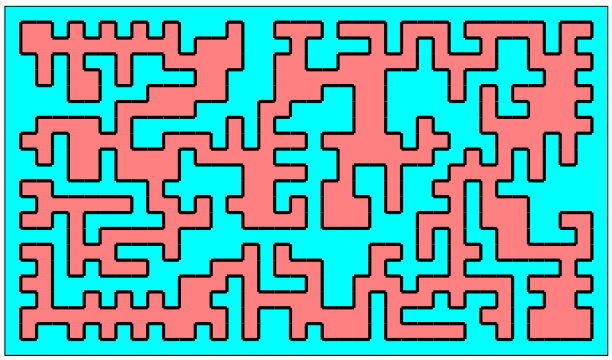

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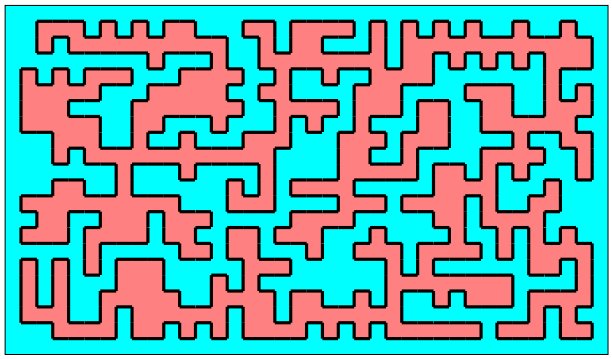

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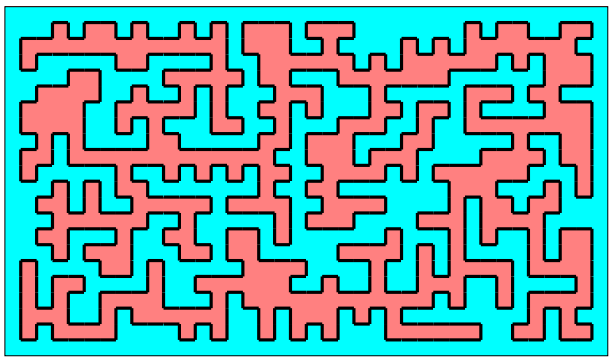

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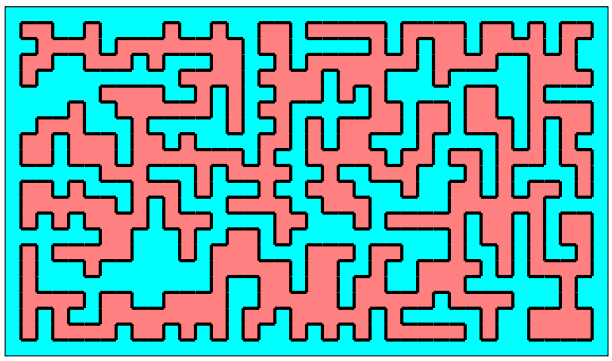

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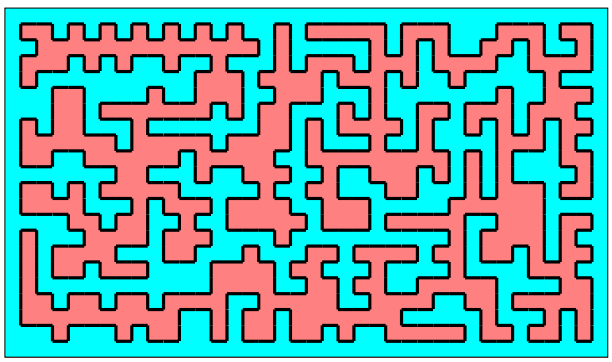

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