
UK Puzzle Championship 2011

INSTRUCTION BOOKLET
(REVISED 22/6/11)
AMENDUM/ADDENDUM CLEARLY MARKED

Saturday 25th – Sunday 26th June 2011

Competition Rules & General Information

REGISTRATION

To participate in the championship, you will need to register online at the UKPA forums – <http://forum.ukpuzzles.org>. During the registration process, you will be required to enter your real name, and your nationality. International participants are welcomed.

PREPARATION

In order to participate in the championship, you will need access to a printer to print out the puzzle booklet. To solve the puzzles you will need a pen or a pencil, and possibly an eraser.

COMPETITION SCHEDULE

- The password protected puzzle booklet will be made available online at <http://www.ukpuzzles.org/contests.php?contestid=7> on Friday 24th June. It is recommended that you download this password-protected pdf before you start the competition.
- The competition will start at **15:00 BST (14:00 GMT) on Friday 24th June**, when the password for the pdf will be made available. Upon retrieving the password, you will have **2.5 hours** to solve the puzzles, and submit your answers via the entry page. You will be able to submit answers until **03:00 BST (02:00 GMT) on Monday 27th June**; as such it is highly recommended that you retrieve the password and start solving before 00:30 BST (23:30 GMT).
- The results will be publicly announced at <http://www.ukpuzzles.org> on **Monday 27th June**. The highest scoring UK participant will be declared the 2011 UK Puzzle Champion!

ENTERING & SUBMITTING ANSWERS

To submit your answers, you will need to go to the answer submission page found at <http://www.ukpuzzles.org/contests.php?contestid=7>. Here, for each puzzle, you will be required to enter the relevant answer keys into the form on the page. The answer keys for each puzzle are defined as part of the instructions.

Upon hitting the submit button, your answers will be sent to the server. You may submit answers as many times as you like, but only the last received keys will be subject to scoring.

SCORING & BONUSES

The puzzle types and the points attached to them are detailed below.

#1 – UKPA Fences	5pts	#11 – ABC Minesweeper	20pts
#2 – UKPA Masyu	5pts	#12 – Hidoku	20pts
#3 – Union Jack Maths	10pts	#13 – Easy as UKPA 1	15pts
#4 – Turn of the 90s 1	5pts	#14 – Easy as UKPA 2	40pts
#5 – Turn of the 90s 2	15pts	#15 – Arrows	20pts
#6 – Brick Wall	15pts	#16 – Spanish Armada	25pts
#7 – Magnets	30pts	#17 – Striped Snake	30pts
#8 – Clueless Tents	15pts	#18 – Good Neighbours	35pts
#9 – Wolves and Sheep in Fences	15pts	#19 – Hidden Domino Castle	40pts
#10 – Chain Reaction	15pts	#20 – Hashiwokakero	25pts
Total:			400pts

Participants who submit error free entries to all of the puzzles before the allotted two and a half hours are up will be awarded 2 points for each complete minute saved, as recorded by the last submission time to the server.

N.B. – although the points allocated to a particular puzzle are a general indication of its difficulty and the time expected to solve it, it is possible that your individual experience may vary greatly.

PUZZLE AUTHORS

We are indebted to the following authors for designing the puzzles used in this contest:

Riccardo Albin	http://www.sudoku.it
Andrey Bogdanov	http://diogen.h1.ru/cgi-bin/contest/start.pl
Ken Duisenberg	http://ken.duisenberg.com/potw/
Giulia Franceschini	http://www.studiogiochi.com
Gabriele Simionato	http://www.nonzero.it
Andrea Gilbert	http://www.clickmazes.com
Alan O'Donnell	http://www.ukpuzzles.org
Puzzler Media Ltd	http://www.puzzler.com
Stefano Forcolin	

RESULTS

Results will be made available on the contest page shortly after the championship is finished.

CODE OF CONDUCT

All participants are expected to solve the puzzles honestly and fairly. You are not permitted to use any external solving aids of any form or receive assistance from any other individual.

The Championship organisers reserve the right to disqualify any participant judged to have acted with improper conduct.

Puzzle Examples

The remainder of this instruction booklet gives example puzzle types. The examples are credited to the appropriate authors, and all rights are reserved to the authors. Note that some of the puzzles in the competition may be by different authors.

#1 UKPA FENCES

Draw a closed loop in the diagram, following the grid-lines. The numbers in boxes indicate how many edges of that cell are part of the loop.

Answer key: Enter the number of cells in each row from top to bottom that are inside the loop. Example: 525547.

Example:

3			1	3		
	3				1	0
3		2				3
			2		1	
		3				3
3			1	2		2

Solution:

3			1	3		
	3				1	0
3		2				3
			2		1	
		3				3
3			1	2		2

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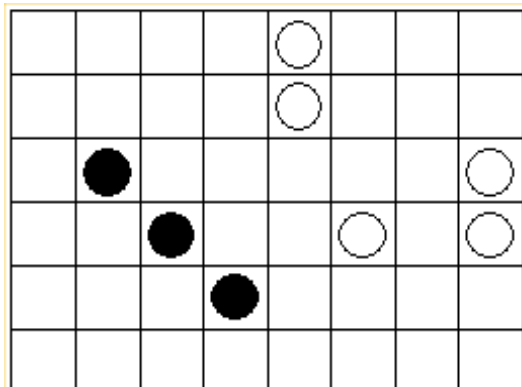
#2 UKPA MASYU

Draw a single closed loop passing through the centres of some grid cells. No diagonal lines are permitted. The loop must pass straight through each white circle without turning, but **MUST** make a 90 degree turn in at least one of the adjacent cells. In each cell with a black circle, the loop must make a 90 degree turn, but cannot turn in either adjacent cell.

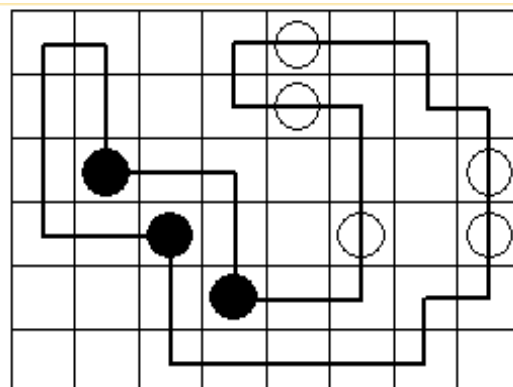
Answer key: Enter the length of **all** horizontal segments that appear in each row from top to bottom.

Example: 13,21,2,2,21,4.

Example:



Solution:



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#3 UNION JACK MATHS

Insert each of the digits 1 to 9, exactly once each, into the grid so that all 8 mathematical expressions are true. Diagonal expressions are read bottom-left to top-right, and top-left to bottom-right.

Answer key: Enter the digits in the order they are used row by row, from left to right.

Example: 687235149. **Addendum: “:” symbol denotes division. Operations should be carried out in the order they appear in the sum. eg “8 - 4 : 2” = 2, not 6**

Example:

Solution:

$\begin{array}{ccccccc} & & & & 5 & & \\ & & & & = & & \\ \begin{array}{ c c c c } \hline \bigcirc & + & \bigcirc & : & \bigcirc \\ \hline \end{array} & = & 2 & \\ \begin{array}{ c c c c c } \hline : & + & - & + & + \\ \hline \end{array} & = & 11 & \\ \begin{array}{ c c c c c } \hline \bigcirc & \times & \bigcirc & + & \bigcirc \\ \hline \end{array} & = & 36 & \\ \begin{array}{ c c c c c } \hline \times & - & + & : & - \\ \hline \end{array} & = & & \\ \begin{array}{ c c c c c } \hline \bigcirc & \times & \bigcirc & \times & \bigcirc \\ \hline \end{array} & = & & \\ \hline \end{array}$	$\begin{array}{ccccccc} & & & & 5 & & \\ & & & & = & & \\ \begin{array}{ c c c c } \hline 6 & + & 8 & : & 7 \\ \hline \end{array} & = & 2 & \\ \begin{array}{ c c c c c } \hline : & + & - & + & + \\ \hline \end{array} & = & 11 & \\ \begin{array}{ c c c c c } \hline 2 & \times & 3 & + & 5 \\ \hline \end{array} & = & 36 & \\ \begin{array}{ c c c c c } \hline \times & - & + & : & - \\ \hline \end{array} & = & & \\ \begin{array}{ c c c c c } \hline 1 & \times & 4 & \times & 9 \\ \hline \end{array} & = & & \\ \hline \end{array}$
$\begin{array}{cccc} = & = & = & = \\ 3 & 9 & 3 & 1 \end{array}$	$\begin{array}{cccc} = & = & = & = \\ 3 & 9 & 3 & 1 \end{array}$

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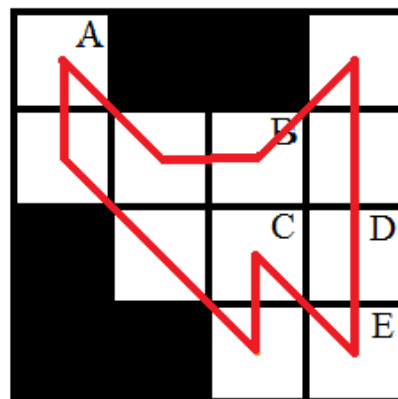
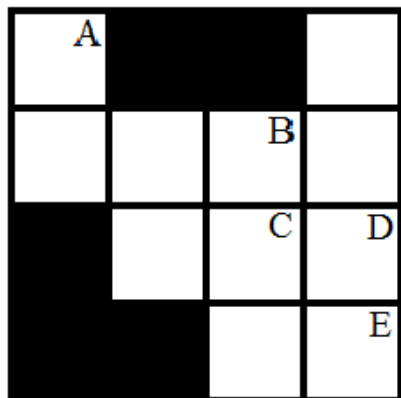
#4 AND #5 TURN OF THE 90S

Draw a closed loop which goes through the centre of ALL white cells exactly once. Black cells cannot be part of the loop. The loop cannot cross or overlap itself and can NEVER make a 90 degree turn.

Answer key: starting from the letter A and proceeding clockwise along the loop, list the letter in the order they are encountered. Example ABDEC. **Addendum: Every white cell must be visited exactly once. You can only move to a neighbouring empty white cell on each step.**

Example:

Solution:



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#6 BRICK WALL

Fill the grid with digits 1-8. Digits cannot repeat in any row or column. Every full sized brick in the wall must contain one odd number and one even number. There may be 2 or more identical bricks in the wall.

Answer key: Enter the contents of the marked row/columns.

Example (row 6, col 6) : 83724156,63728154.

Example:

↓ 2

→ 1

	2		5				4
				6			
	4				7		
	6	5		7			3
7			6		8	3	
		7					5
			4				
5				1			2

Solution:

↓ 2

→ 1

3	2	1	5	8	6	7	4
4	5	2	7	6	3	1	8
6	4	3	1	2	7	8	5
1	6	5	8	7	2	4	3
7	1	4	6	5	8	3	2
8	3	7	2	4	1	5	6
2	7	8	4	3	5	6	1
5	8	6	3	1	4	2	7

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#7 MAGNETS

Fill the diagram with magnetic and non-magnetic plates of size 2x1. Each magnetic plate has a '+' and '-' half. Plate halves with the same polarity cannot touch by an edge, though they can touch by a corner. Non-magnetic plates can be placed adjacent to any other plate. The numbers above and beside the grid indicate how many '+' and '-' appear in that row or column.

Answer key: Enter the contents of the marked row/columns, using the symbols '+', '-' or '0' (non-magnetic). Example (row 5, col5): -+0-+-,000+-

Example:

↓ 2

→ 1

+		3	2	1	3	1	2
	-	2	2	2	2	2	2
2	3						
1	1						
1	2						
3	1						
2	3						
3	2						

Solution:

↓ 2

→ 1

+		3	2	1	3	1	2
	-	2	2	2	2	2	2
2	3	-	+	-	+	-	
1	1	+			-		
1	2			-	+		-
3	1	+	-	+			+
2	3	-	+		-	+	-
3	2	+	-		+	-	+

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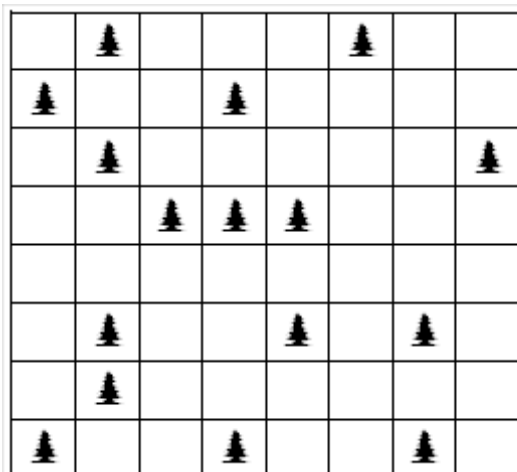
#8 CLUELESS TENTS

Place a tent in a cell horizontally or vertically adjacent to every tree. Cells with tents cannot touch, not even by a corner.

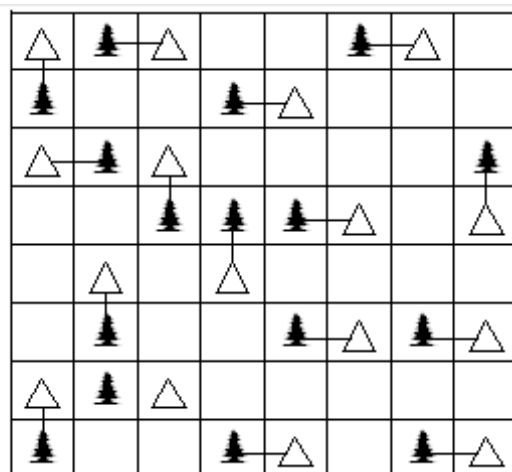
Answer key: Enter the number of tents in each row, top to bottom. Example: 31222222.

Amendum: answer key corrected

Example:



Solution:



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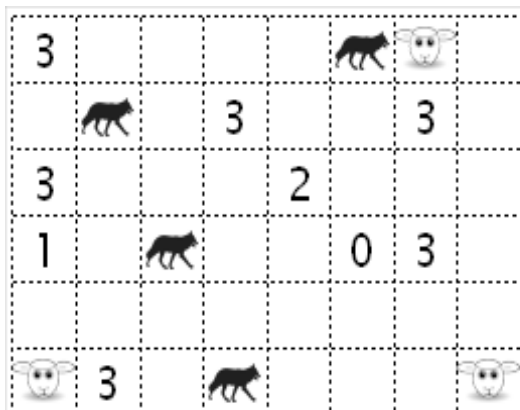
#9 WOLVES AND SHEEP IN FENCES

Draw a closed loop in the diagram, following the grid-lines. The numbers in boxes indicate how many edges of that cell form part of the loop. Sheep must be kept inside the fence, and wolves outside.

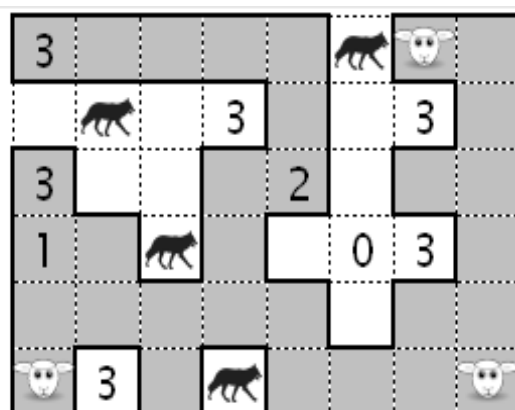
Answer key: Enter the number of cells in each row, from top to bottom, that are inside the loop.

Example: 725476.

Example:



Solution:



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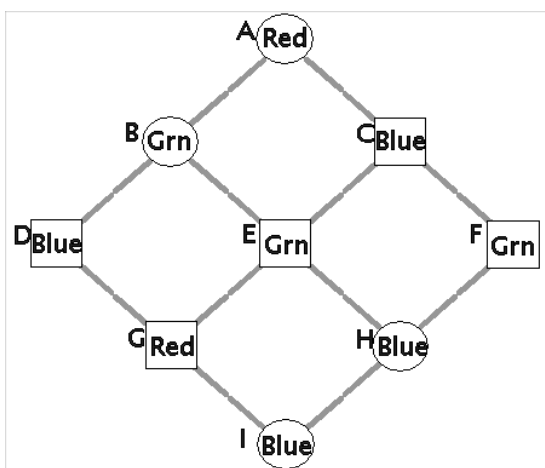
#10 CHAIN REACTION

Starting from the top atom (labelled 'A') jump to any unvisited atom in line with it, that matches it either in shape or pattern (or both). Each jump must be along a straight line but may leap frog other atoms. Find a route that visits every atom once and once only. (Contest puzzle atoms contain patterns)

Answer key: Enter the letters of the atoms visited in order. Example: ABHIDGECF.

Clarification: Patterns used in the contest puzzle are all monochrome, and easily distinguished.

Example:



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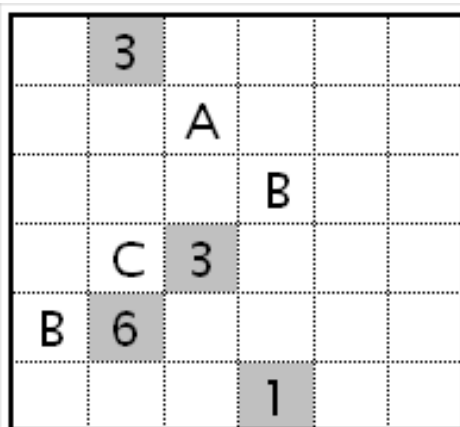
#11 ABC MINESWEEPER

Draw three types of mine (A B & C) into the grid so that each type appears exactly once in each row and column. Some mines have already been placed for you. Numbers in the grid indicate the the total number of mines in the 8 neighbouring cells. Numbered clue cells do not contain mines.

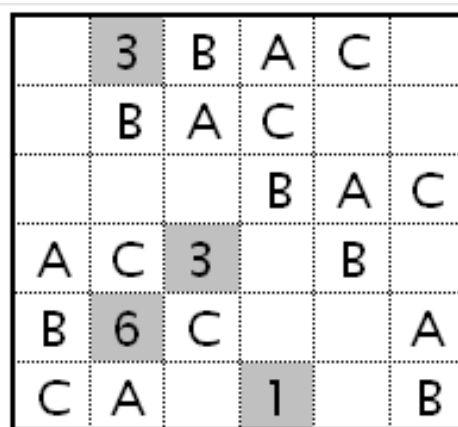
Answer key: Enter the contents of the marked row/columns using '-' for empty cells.

Example (row 2, col6): -BAC--C-AB.

Example:



Solution:



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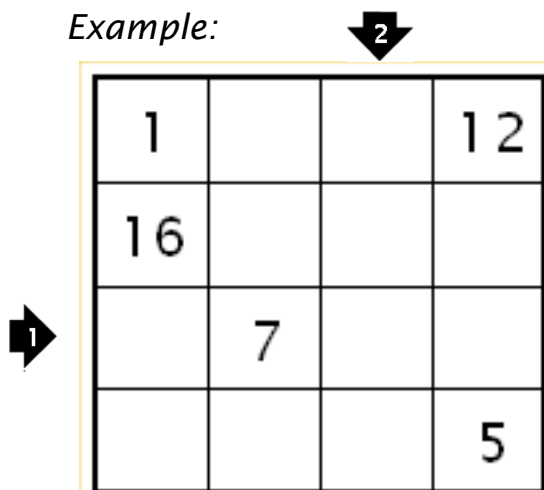
#12 HIDOKU

Place one number from 1-49 (1-16 in the example) into each cell of the grid to create a continuous sequential path. Some numbers have already been placed. For each step, you must move one step horizontally, vertically or diagonally in any of the 8 directions. The path may cross itself.

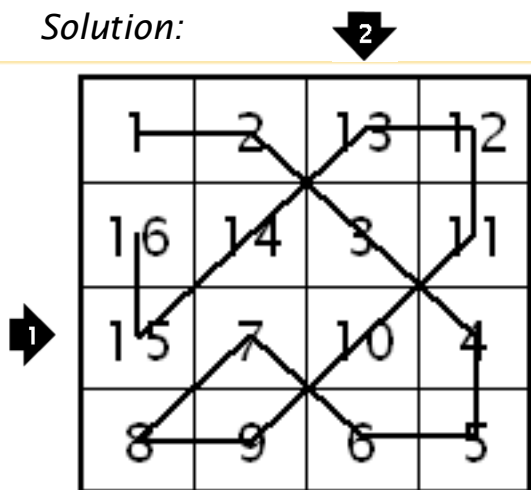
Answer key: **Amendum: Enter the last digit of each number appearing in the marked row/columns.**

Example (row 3, col 3): 5704,3306

Example:



Solution:



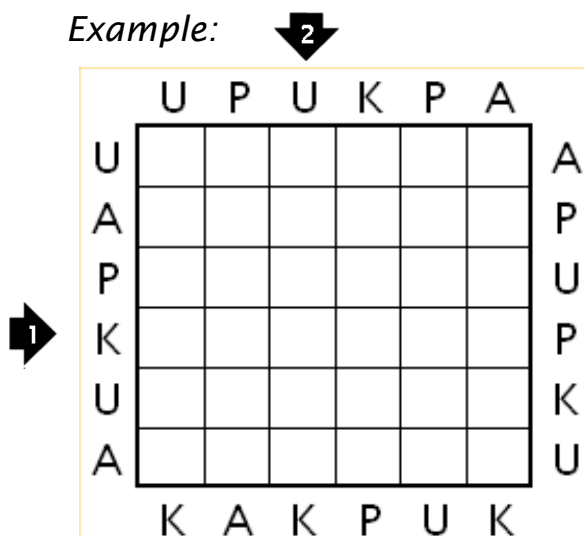
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#13 AND #14 EASY AS UKPA

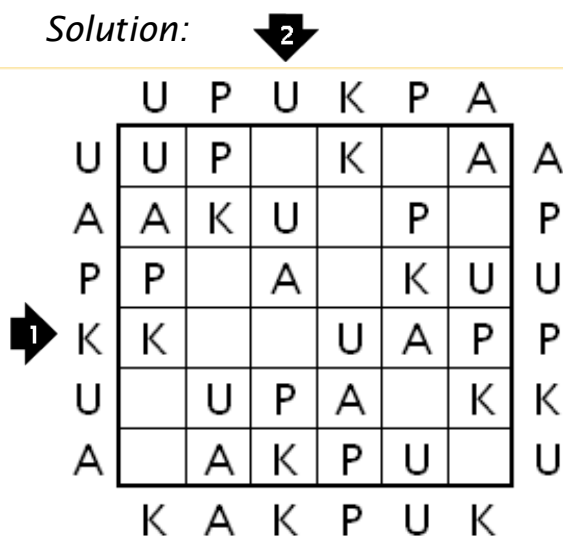
Enter the letters UKPA into the diagram so that every letter occurs once in every row and every column. Some cells will remain blank. The letters at the edge indicate the first letter encountered in that row or column. Answer key: Enter the contents of the marked row/columns, using '-' for empty cells.

Example (row4,col3): K--UAP,-UA-PK. **Addendum: The example below has more than one solution. The contest puzzles have unique solutions.**

Example:



Solution:



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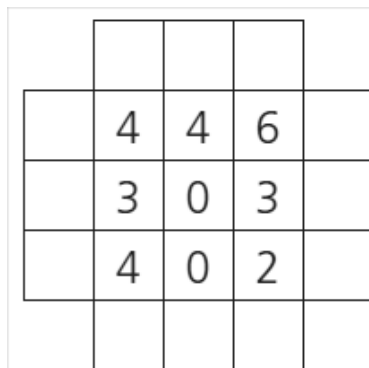
#15 ARROWS

In each empty cell around the border, insert an arrow pointing at the grid horizontally, vertically or diagonally. Each number in the grid indicates the number of arrows pointing at it.

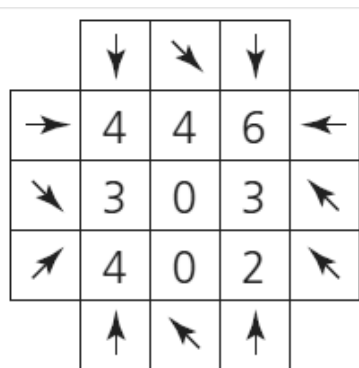
Answer key: Enter the number of horizontal (left and right) then vertical (up and down) arrows used.

Example: 2,4

Example:



Solution:



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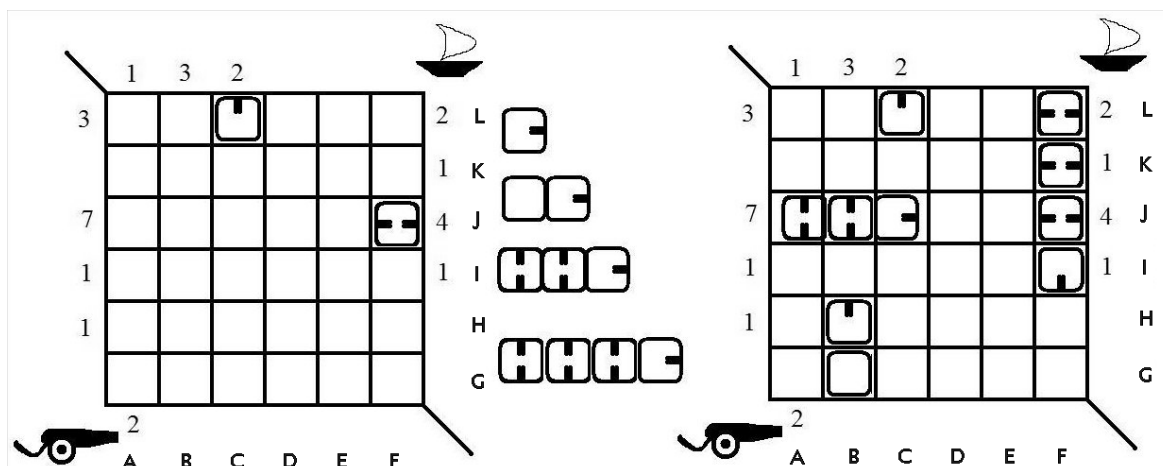
#16 SPANISH ARMADA

Locate all the ships of the Spanish Armada into the grid below. Numbers to the TOP and RIGHT of the grid indicate how many ship segments are present in that row/column. Ships cannot touch each other, not even diagonally. Each ship carries a number of cannons, (0,1 or 2 per ship segment) arranged as displayed in the diagram by the grid. The entire Armada fleet is shown. Numbers to the LEFT and BOTTOM of the grid indicate how many cannons are present in that row/column. Ships can be rotated. Ignore the letters around the grid when solving.

Answer key: Enter the coordinates of the ship portions containing one single cannon, from left to right, top to bottom. Example: CL,CJ,FI,BH. **Amendum. Instructions rephrased for clarity..**

Example:

Solution:



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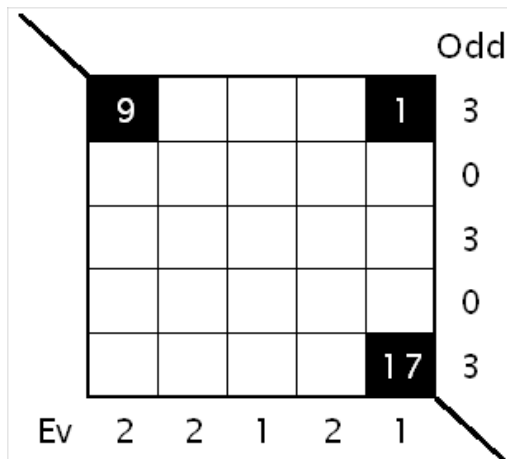
#17 STRIPED SNAKE

A snake is hidden in the grid. It consists of 45 (17 in the example) neighbouring cells of alternating colours (odd numbered cells are black, even numbered cells are white). The snake cannot touch itself, not even diagonally. Head, tail and middle are marked. Numbers to the RIGHT show the number of black (ODD) cells in that row. Numbers BELOW the grid show the number of white (EVEN) snake cells in that column.

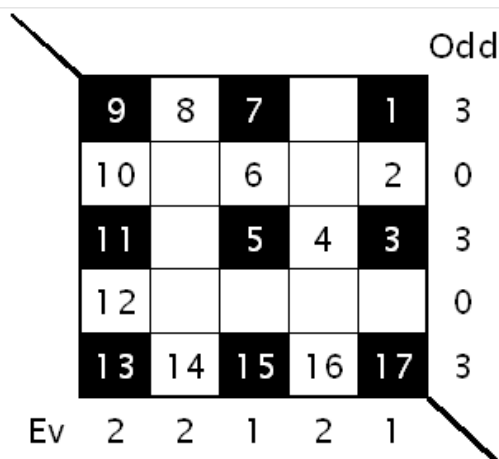
Answer Key: Enter the total number of cells used by the snake in each row, from top to bottom.

Example: 43415. **Amendum – words black/white interchanged in original text**

Example:



Solution:



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#18 GOOD NEIGHBOURS

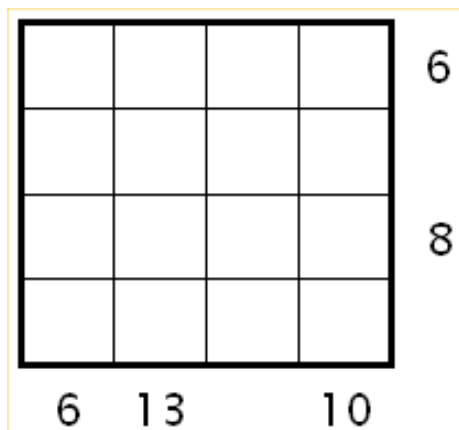
Some shapes constructed from square cell(s) will be shown to you, along with a grid. Place exactly 8 shapes into the grid, so that the size of the shape indicates how many neighbours it shares at least one edge with. One shape is to be used twice, all others are used no more than once. Shapes can be rotated and reflected. Numbers below and to the right of the grid show the sum of the sizes of each shape appearing in that row or column.

Answer key: Enter the size of the piece that occupies each cell in the diagram, row by row.

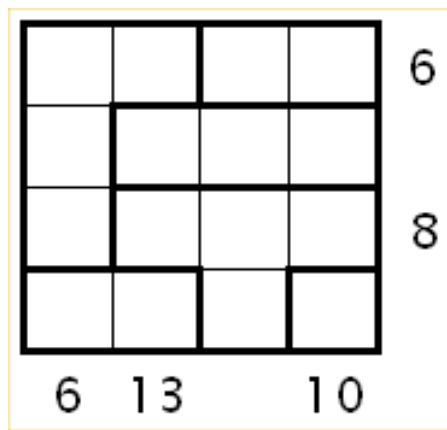
Example: 4422,4333,4444,2241

Example:

(list of permitted shapes not shown)



Solution:



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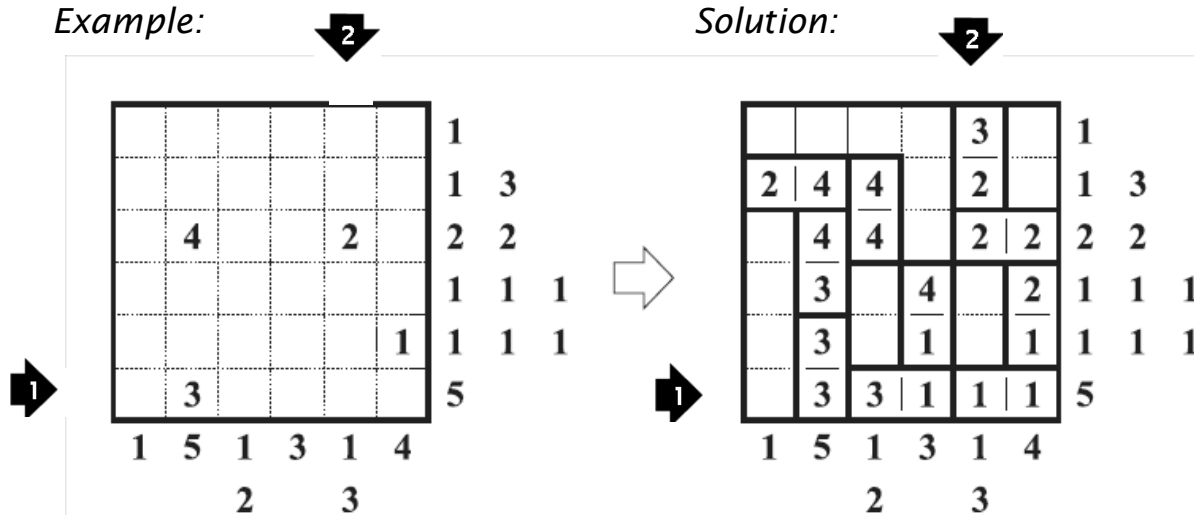
#19 HIDDEN DOMINO CASTLE

Place the complete standard set of dominoes (1-1 to 6-6) into the grid without overlapping. If two dominoes share an edge, the two touching halves must have the same value, as in a normal game of dominoes. Numbers outside the grid show the lengths of blocks of cells occupied by dominoes in that row/column, NOT NECESSARILY IN ORDER. There must be at least one empty cell between clued blocks. The value of some half-dominoes are given.

Answer key: Enter the contents of the marked row/columns. Use '-' for empty cells.

Example (row 6, col5): -3111,322--1 . **Addendum: all dominoes must form a single connected structure. The example below has more than one solution. The contest puzzle solves uniquely.**

Example:



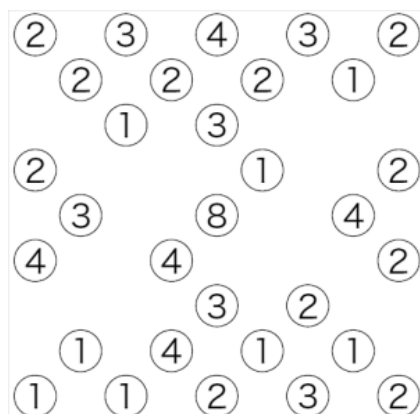
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#20 HASHIWOKAKERO

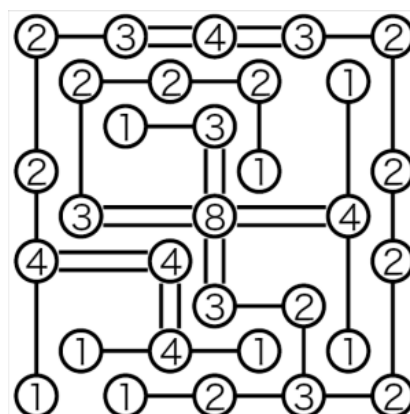
Each circle in the diagram represents an island, with the number on it representing the total number of bridges connected to it. Join islands with horizontal and vertical bridges, so that all islands are connected in a single network. Two islands can be directly joined by no more than two bridges.

Answer key: Enter the number of horizontal double bridges, followed by the number of vertical double bridges. Example: 5,3.

Example:



Solution:



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