LMI October Puzzle Test 1
9/10 October 2010
100 Minutes

NIKOLI SELECTION

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Tested and coordinated by Deb Mohanty & Co.

INTRODUCTION

Sudoku solvers all over the world should be well aware of Nikoli – it is the Japanese publisher that took a seemingly obscure puzzle called Number Place from an American magazine in 1984, and added the aesthetic guidelines that would catch firstly the attention of Wayne Gould in 1997, then The Times of London in 2004, and finally the entire world today!

However, sudoku is simply one of a vast array of the so-called pencil puzzles that Nikoli publishes. Although the different types may differ greatly in terms of their rules and appearance, each published puzzle shares a common ethos: beautiful handmade puzzles with special attention paid to the delight and enjoyment of the solver. Their puzzles are regarded as the gold standard throughout the world.

After participating in my first world championship in 2007, I was prompted in the direction of their internet site, nikoli.com, and was hooked immediately. In the first half of 2009, I decided to have a go myself, and turned my attention to creating nikoli puzzles on my blog "DETUNED RADIO" – I'm still going today and publish an original puzzle every Friday. I have tried to emulate the high standards Nikoli sets both with the blog, and with this Puzzle Test. I hope you enjoy it as much as I did creating it!

Tom "detuned" Collyer

TEST STRUCTURE

The test comes in two parts. The main part of the test consists of 18 puzzles, featuring 15 different Nikoli style puzzles. Solvers finishing the first 18 puzzles in time will score a bonus for each minute remaining. However, the fun does not stop there. The test also contains three extra "marathon" puzzles, in the finest tradition of fold-out Nikoli puzzles. These will push even the most battle-hardened solvers to their limits!

As a guide, the marathon puzzles will not provide as efficient a "points per solving time" rate as the first 18 puzzles, and it is highly recommended to focus on these 18 puzzles before attempting the marathon puzzles. It is not expected that any solver will be able to solve all three puzzles within the time limit; rather the solver is expected to make a choice between the three puzzles if and when they get to that stage.

The three marathon puzzles are: **Heywake, Kakuro** and **Masyu**. The details of the first 18 puzzles are detailed below:

Puzzle	Points	Puzzle	Points
Akari	35	Slitherlink	45 + 100
Fillomino	40	Sudoku	30
Hashi	30	Surarumo	30
Heyawake	90	Yajilin	55 + 80
Hitori	40	**SUBTOTAL**	1000
Kakuro	65		+ Bonus 3 points per minute saved
LITS	95		
Masyu	35	1 Marathon Puzzle	100
Numberlink	20	2 Marathon Puzzles	250
Nurikabe	60 + 100	3 Marathon Puzzles	500
Shikaku	50	**TOTAL**	1500 (+ Bonus)

PUZZLE EXAMPLES

AKARI (LIGHT UP)

Place light bulbs in any white square in the grid. Each given number is adjacent to that many light bulbs; each white square should be illuminated, but no two light bulbs should illuminate each other. Light bulbs emit light in horizontal and vertical directions until a black square or the edge of the grid is reached.

Answer Key: Enter the number of lights in the 1st, then 3rd, then 5th row. For the example, the answer is 1,1,1.
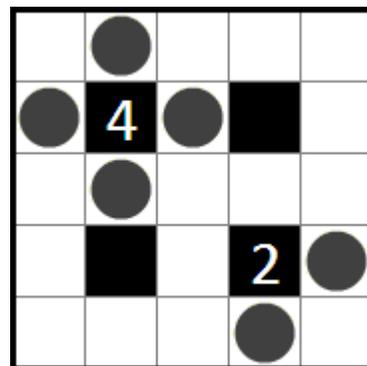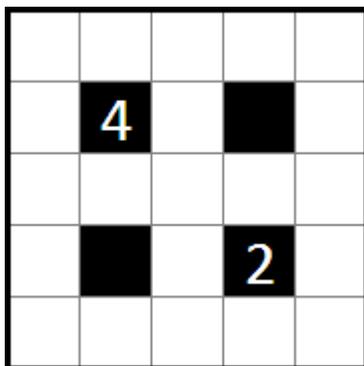
FILLOMINO

Place numbers in the grid. Each number is contained in a poly-omino of that size. Poly-ominos of the same size should not be horizontally or vertically adjacent to each other

Answer Key: Enter the 3rd row followed by the 3rd column. For the example, the answer is 12155,44136.
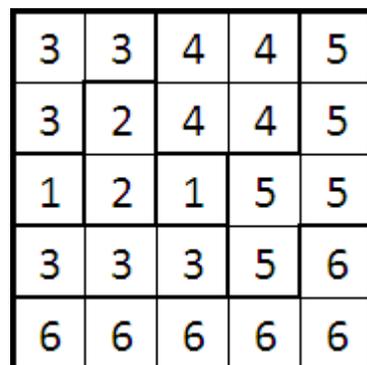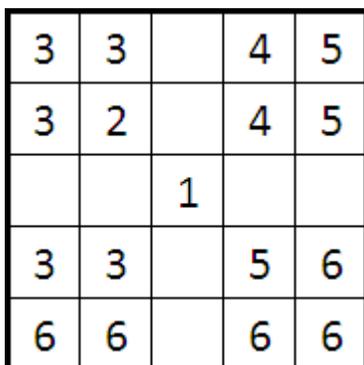
HASHIWOKAKERO (BRIDGES)

Connect the islands with horizontal and vertical bridges. Each island has the corresponding number of bridges away from it. At most two bridges are allowed to connect any given pair of islands, and each island must be connected to any other.

Answer Key: Enter the number of horizontal double bridges. For the example, the answer is 1.
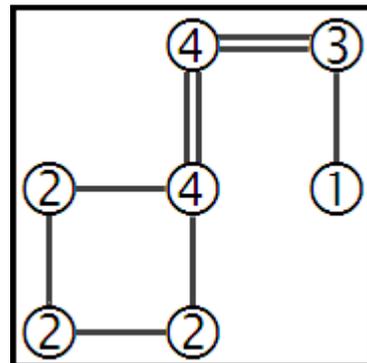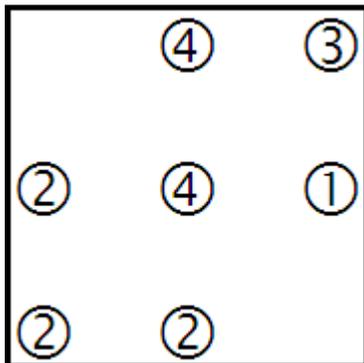
HEYAWAKE

Shade in some black squares in to the grid. The grid is divided up into rooms – if a room has a number in then there should be the corresponding number of black squares within the room. Black squares must not be horizontally or vertically adjacent, and the remaining white squares should be connected to each other via horizontal or vertical paths. However, the white squares must not exceed 2 rooms in a straight line. *[The letters inside some squares are used for answer keys only.]*

Answer Key: Enter the number of shaded cells in the marked rooms. For the example, the answer is 1,0.
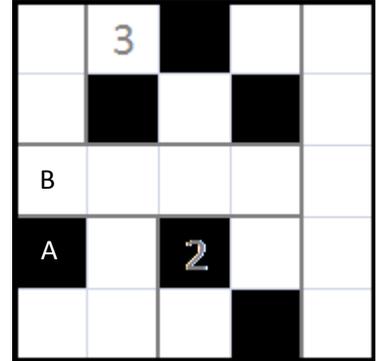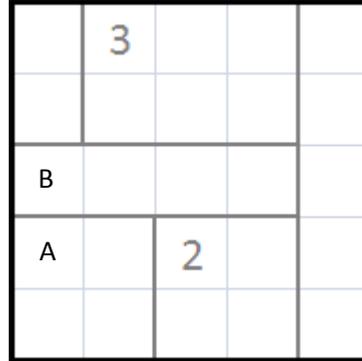
HITORI

Black out some of the digits in the grid so that each row and each column contains distinct digits. Black cells must not touch each other horizontally or vertically. All white cells are connected to each other orthogonally (by an edge).

Answer Key: Enter the number of shaded cells in each row starting from top row. For the example, the answer key is 21022.
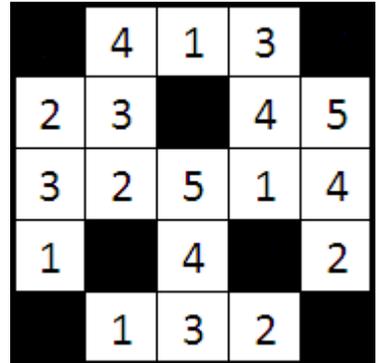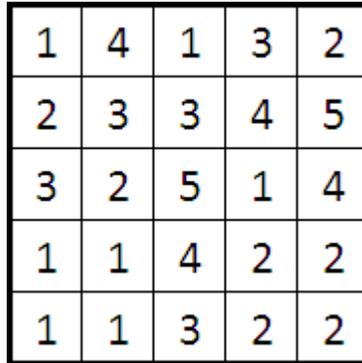
KAKURO

Place a digit from 1 to 9 in each cell so that the sum of each horizontal/vertical group of cells equals the number given on its left/top. Digits must not repeat within any sum.

Answer Key: Enter the highlighted row(s), from top to bottom; followed by the highlighted column(s), from left to right. For the example, the answer key is 3512,2415.
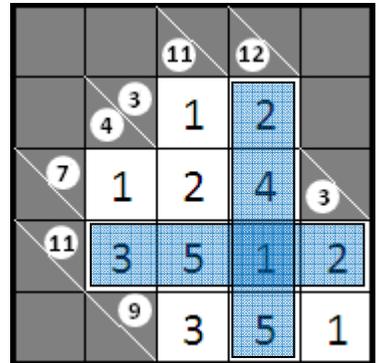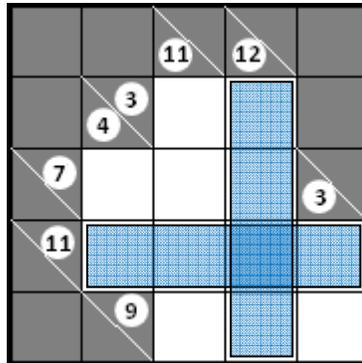
LITS

Shade exactly four consecutive squares in each outlined region to form one of L, I, T, S tetromino. No two matching tetrominoes should share an edge (with rotations and reflections count as matching. All shaded squares are connected to each other orthogonally (by an edge). Shaded squares cannot form 2X2 area.

Answer Key: Enter the number of "T" tetrominoes, followed by the number of "I" tetrominoes. For the example, the answer key is 0,0.
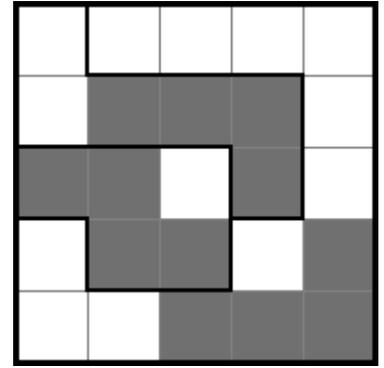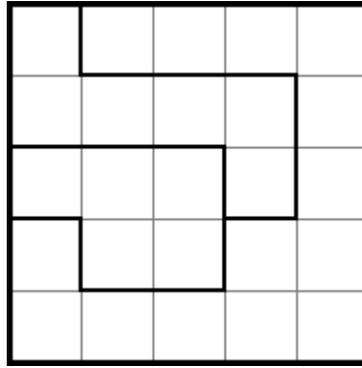
MASYU

Draw a single closed loop visiting centers of squares in the grid. The loop must visit all squares with circles. The loop makes 90° turn at every black circle, but does not make a turn immediately before or after. The loop goes straight at every white circle, but makes at least one 90° turn immediately before or after.
*[The letters inside some circles are used for answer keys only.]*

Answer Key: Starting with A, and travelling clockwise, enter the order that the letters are passed. For the example, the answer key is ACB.
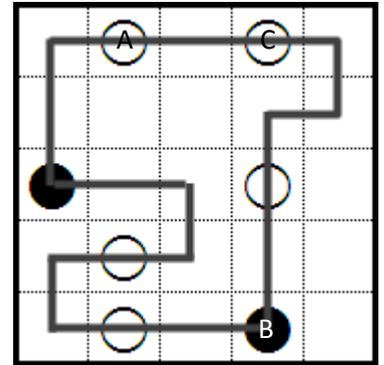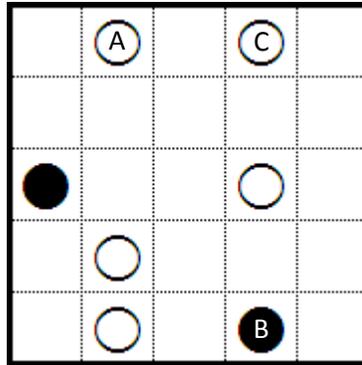
NUMBERLINK

Connect identical pair of numbers with continuous horizontal or vertical lines going through center of cells. Lines do not cross or overlap each other.

Answer Key: Enter the corresponding number for the path in the 1st column, followed by the 4th column. For the example, the answer key is 11111,22221.
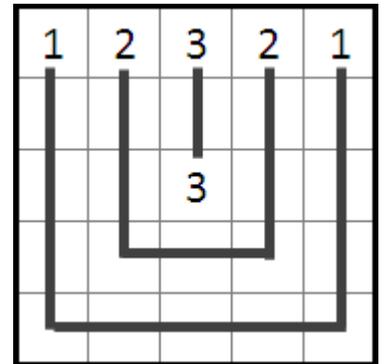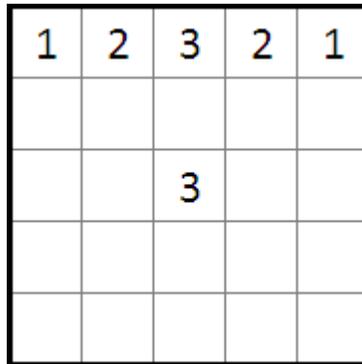
NURIKABE

Shade some empty squares in the grid so that all shaded squares are connected to each other orthogonally (by an edge). Shaded squares cannot form 2X2 area. Each white area must have exactly one number inside it and the number of squares inside the white area must equal the number.

Answer Key: Enter the number of white squares in the 1st column, followed by the 3rd and the 5th columns. For the example, the answer key is 2,1,2.

SHIKAKU

Divide the grid into rectangles so that each rectangle contains exactly one number. Each number represents the number of cells of its corresponding rectangle.

Answer Key: Enter the number of different rectangles in the 1st column, followed by the 3rd and the 5th columns. For the example, the answer key is 2,2,2.

SLITHERLINK (FENCES)

Draw a single closed loop connecting the dots in the grid traveling horizontally or vertically. The loop must not cross or overlap itself. Numbers inside the cells indicate how many of the edges of that cell are used in the loop.

Answer Key: Enter the number of cells outside the loop in the 1st column, followed by the number of cells outside the loop in the 4th column. For the example, the answer key is 5,4.

SUDOKU

Place the digits 1-9 into the grid. Each row, column and 3x3 box should contain each digit exactly once. (Example is a 6x6 puzzle)

Answer Key: Enter the first row, followed by the fifth column. For the example, the answer key is 123456,531642.

Suraromu (Slalom)

Draw a single closed loop, starting and ending at the numbered circle. The loop travels horizontally or vertically passing through center of white squares. The dotted lines are known as gates. The loop must pass through exactly one square in each gate. The number inside the circle indicates the number of gates. The number inside the black square represents the order in which the loop passes through the gate which touches that black square.
[The letters inside some black squares are used for answer keys only.]

Answer Key: Enter the numbers of the marked gates. For the example, the answer key is 1,3.

Yajilin (Arrow Ring)

Shade some empty squares in the grid so that shaded squares do not touch each other horizontally or vertically. A square containing a number and an arrow represent the number of shaded squares in the direction of the arrow. Draw a single closed loop that travels horizontally or vertically connecting centers of remaining squares. The loop must not cross or overlap itself.

Answer Key: Enter the number of turns by the loop in the 1ˢᵗ column, followed by the 3ʳᵈ and the 5ᵗʰ columns. For the example, the answer key is 2,2,4.