LOGIC MASTERS INDIA
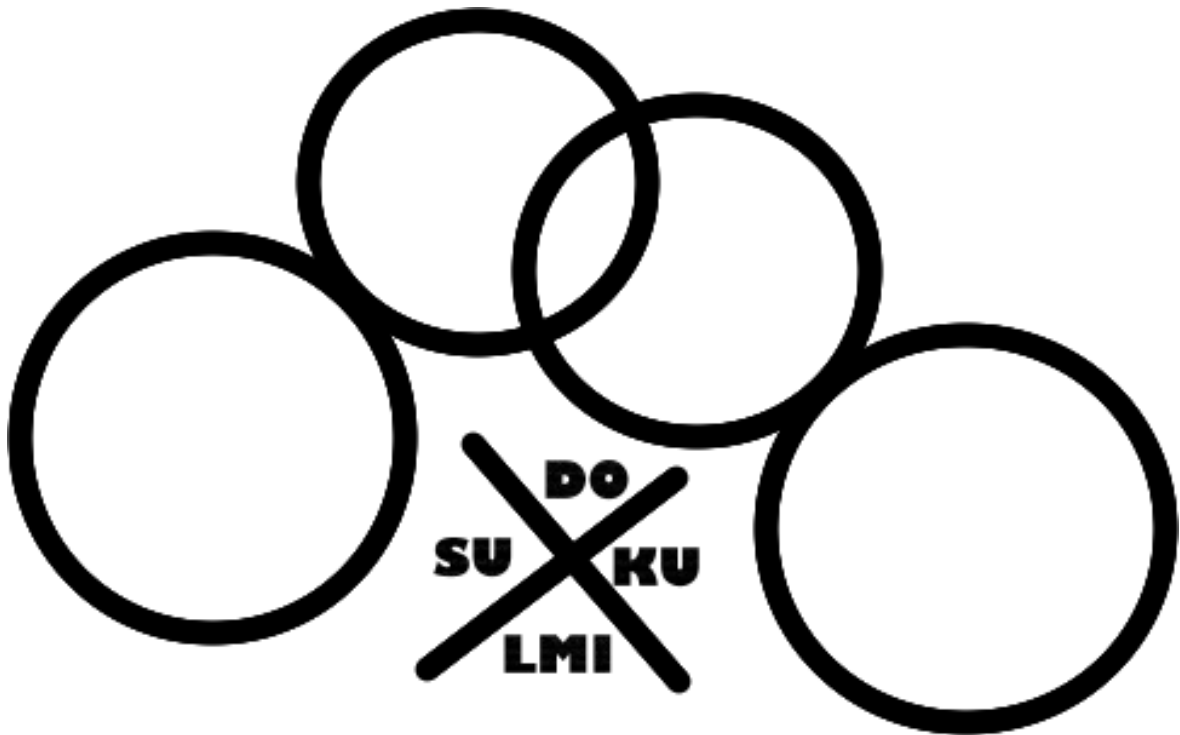## MAY SUDOKU TEST

SUDOKU 8X8

BY

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May 12. – 14. 2012

Instruction Booklet

Pre-solvers:
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PART A
14 puzzles – 8x8 minutes – 360 points

A1 Classic sudoku — 14 points
A2 Classic sudoku — 14 points
A3 Diagonal sudoku — 39 points
A4 Cube sudoku — 7 points
A5 Nonconsecutive sudoku — 26 points
A6 Killer sudoku — 27 points
A7 Greater than sudoku — 41 points
A8 GT consecutive sudoku — 23 points
A9 Quadruple sudoku — 22 points
A10 Pencil marks sudoku — 59 points
A11-14 Foursome sudoku — 32 points

448 – 360 = 88	or	44 points
360 + 448 = 808	or	56 points
points for both sets	or	88 points

PART B
14 puzzles – 8x8 minutes – 448 points

B1 Classic sudoku — 33 points
B2 Classic sudoku — 11 points
B3 Antidiagonal sudoku — 49 points
B4 Irregular cube sudoku — 26 points
B5 Irregular sudoku — 24 points
B6 Surplus-deficit sudoku — 14 points
B7 Untouchable sudoku — 16 points
B8 X sums sudoku — 35 points
B9 Even sudoku — 42 points
B10 Even prime numeral — 30 points
B11 Toroidal sudoku — 15 points
B12 Irregular without regions — 67 points
B13 Skyscrapers sudoku — 29 points
B14 Odd-even view skyscrapers — 57 points

Sudoku 8x8 consists of two independent parts, which may be solved anytime during the weekend.
Instruction booklet contains example puzzles of sizes 2x2x2, 6x6 or 8x8.
Time bonus: 3 points per each minute, if all puzzles from the puzzle set are solved correctly
Answer key: For each puzzle there will be one marked row or column or few marked cells,
Watch out the puzzle B12, which have different answer key (see below)

PART A

Theme:	Sudoku 8x8 with rectangles 2x4 placed horizontally
Number of puzzles: 14 puzzles	**Maximum score:** 360 points
Time limit: 8x8 minutes	**Time bonus:** 3 points per minute

A1-2) Classic sudoku   14 + 14 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle (2x4).
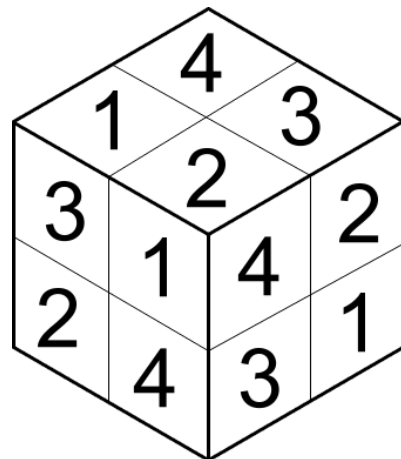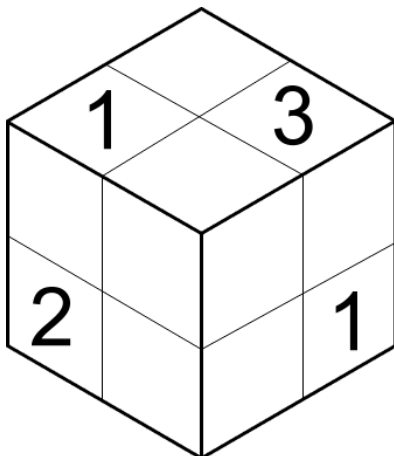
A3) Diagonal sudoku   39 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column, outlined rectangle and both marked diagonals.

Puzzle grid:

	3	2			
3	1		5		
4			3	2	
	4	5			

Solution grid:

4	1	2	6	3	5
6	5	3	2	1	4
2	3	1	4	5	6
5	4	6	3	2	1
1	2	4	5	6	3
3	6	5	1	4	2

A4) Cube sudoku   7 points

Fill in the whole cube with numbers 1-8 so that each number appears exactly once in every row and every outlined rectangle.

Puzzle cube — top face: 1, 3; left face: 2, ; right face: , 1.

Solution cube — top face: 4 / 1, 2 / , 3; left face: 3, 2 / 1 / 4; right face: 3, 2 / 4 / 1; 3.

A5) Killer sudoku   27 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and coloured rectangle. The grid is divided into small outlined regions. The sum of the numbers in each outlined region is equal to the corresponding number given in a corner of the outline. No digit is repeated within a given outlined region.

Puzzle grid with cage clues: 10, 9, 4, 6 (top row); 8, 10, 11; 6; 4, 8, 6; 9, 8, 9; 9.

Solution grid:

10		9	4		6
5	4	6	3	1	2
1	2	3	5	6	4
2	6	1	4	5	3
4	3	5	1	2	6
3	1	2	6	4	5
6	5	4	2	3	1

A6) Nonconsecutive sudoku 26 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. No consecutive numbers may neighbour horizontally and vertically.

Puzzle grid (given clues):

			1		
			6		
		3			
		3			
	6				
	5				

Solution:

6	2	4	1	3	5
3	5	1	4	6	2
5	1	3	6	2	4
2	4	6	3	5	1
4	6	2	5	1	3
1	3	5	2	4	6

A7) Greater than sudoku 41 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Numbers must be placed according to greater (>) and less (<) signs.

Solution:

4	3	1	6	2	5
2	6	5	1	3	4
6	1	4	2	5	3
5	2	3	4	1	6
3	4	2	5	6	1
1	5	6	3	4	2

A8) Greater than Consecutive sudoku 23 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Numbers must be placed according to greater (>) and less (<) signs. All the consecutive numbers have the sign of inequality between themselves (and conversely the signs always match consecutive numbers).

Solution:

2	3	5	4	6	1
4	6	1	5	3	2
1	2	6	3	5	4
3	5	4	1	2	6
5	4	2	6	1	3
6	1	3	2	4	5

A9) Quadruple sudoku   22 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Each set of four small numbers in the intersection of two lines indicate the numbers that are in the four adjacent cells.

1234					
3356	1124				
1456	1234				
3356	1246				
2356					

6	1	2	4	5	3
5	3	4	1	6	2
3	6	1	2	4	5
2	4	5	3	1	6
1	5	3	6	2	4
4	2	6	5	3	1

(intersection clues: 1234, 3356, 1124, 1456, 1234, 3356, 1246, 2356)

A10) Pencil marks sudoku   59 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. In each cell all possible numbers are given. Choose one of them to obtain valid solution.

124	256	134	135	246	136
256	126	256	124	456	235
146	236	345	346	145	156
246	134	245	235	145	134
345	156	126	346	124	245
234	145	256	123	356	156

4	6	3	5	2	1
5	1	2	4	6	3
1	2	4	3	5	6
6	3	5	2	1	4
3	5	1	6	4	2
2	4	6	1	3	5

A11-14) Foursome sudoku   one solved **32,** two solved **44,** three solved **56**, all four **88 points**

There are four sudoku grids in the corners to be filled in. The grids at the top and bottom contain few numbers that correspond to a sum of two digits that should be placed in the same cell in the neighbouring sudoku grids. The left and right ones contain few numbers that correspond to a product of two digits that should be placed in the same cell in the neighbouring sudoku grids.

The four corner grids follow common 8x8 sudoku rules: Fill in each grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined region. This foursome sudoku consists of four different types of grids – two usual grids, one grid with rotated rectangles and one irregular grid.

SUM

PRODUCT

PRODUCT

SUM

Top (SUM) clues:
```
 2 10
10        8  6
    6 11  5
 5  9 10
 4  9           9
              8  7
```

Left (PRODUCT) clues:
```
         24  4
  8  6           15
  2 25 24
    24 20  6
4         3  5
15 24
```

Right (PRODUCT) clues:
```
               6 24
  12 12              1
  12  1 20
      12 30  1
4              4 36
18  3
```

Bottom (SUM) clues:
```
 6  8
 8         4 11
    6  8  5
 9  8 10
 9 11           7
              9 11
```

Solution grid (top-left):

1	5	3	2	6	4
6	4	2	5	1	3
4	2	5	6	3	1
3	1	6	4	2	5
2	3	4	1	5	6
5	6	1	3	4	2

Solution grid (top-right):

1	5	4	2	3	6
4	2	6	3	5	1
3	6	1	5	2	4
5	4	3	6	1	2
2	1	5	4	6	3
6	3	2	1	4	5

Solution grid (bottom-left):

5	3	2	6	4	1
4	2	3	1	6	5
6	1	5	4	2	3
1	6	4	5	3	2
2	5	6	3	1	4
3	4	1	2	5	6

Solution grid (bottom-right):

1	5	3	6	2	4
4	6	2	3	5	1
5	2	1	4	3	6
6	3	4	5	1	2
2	4	5	1	6	3
3	1	6	2	4	5

PART B

B1-2) Classic sudoku   33 + 11 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle (2x4). These outlined rectangles will be rotated.

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

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

B3) Antidiagonal sudoku   49 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Each marked diagonal contains exactly three different numbers.
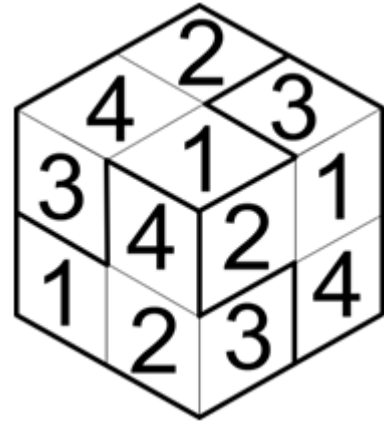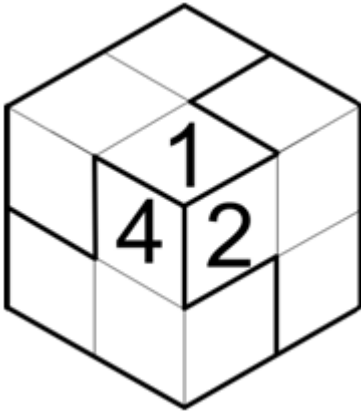
				2	
	1	6			4
	4				3
3				4	
4			6	3	
	2				

5	3	4	1	2	6
2	1	6	3	5	4
1	4	5	2	6	3
3	6	2	5	4	1
4	5	1	6	3	2
6	2	3	4	1	5

B4) Irregular cube sudoku — 26 points

Fill in the whole cube with numbers 1-8 so that each number appears exactly once in every row and every outlined region.

B5) Irregular sudoku — 24 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined irregular region.

Left grid (givens):

1				4	
	2				1
		3			
			4		
2				5	
	4				6

Right grid (solution):

1	6	5	3	4	2
3	2	4	5	6	1
4	1	3	6	2	5
6	5	2	4	1	3
2	3	6	1	5	4
5	4	1	2	3	6

B6) Surplus-deficit sudoku — 14 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row and column. In regions with less than 8 cells the numbers should not repeat. In regions with more than 8 cells each number should appear at least once.

Left grid (givens):

		6	2	5	
	5				1
2					6
5					3
3				6	
	6	3	1		

Right grid (solution):

1	3	6	2	5	4
6	5	2	4	3	1
2	4	5	3	1	6
5	2	1	6	4	3
3	1	4	5	6	2
4	6	3	1	2	5

B7) Untouchable sudoku   16 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. The same numbers should not touch each other.

5	1				2
			1		6
			4		
		1			
6		3			
1				6	3

5	1	6	3	4	2
4	3	2	1	5	6
2	6	5	4	3	1
3	4	1	6	2	5
6	2	3	5	1	4
1	5	4	2	6	3

B8) X sums sudoku   35 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Numbers outside the grid indicate the sum of first X-numbers in corresponding direction. Number X is always the first number in corresponding direction. F.E. - if the first number in row is 5, the outside number indicates the sum of first 5 numbers in that row.

Left grid (clues outside):

Top: 21 5 19 13 13 1
Left: 21, 1, 19, 6, 10, 14
Right: 1, 20, 6, 9, 12, 21
Bottom: 14 19 3 9 1 21

Right grid (solution):

Top: 21 5 19 13 13 1

21	6	2	5	4	3	1	1
1	1	3	4	2	6	5	20
19	5	1	3	6	4	2	6
6	2	4	6	1	5	3	9
10	3	6	1	5	2	4	12
14	4	5	2	3	1	6	21

Bottom: 14 19 3 9 1 21

B9) Even sudoku   42 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Grey cells should contain only even cells.

(grey)		3			
(grey)	(grey)		6		
5		(grey)		6	
	4	(grey)	(grey)		1
		5		(grey)	
			5	(grey)	(grey)

6	5	3	4	1	2
4	2	1	6	3	5
5	1	2	3	6	4
3	4	6	2	5	1
2	6	5	1	4	3
1	3	4	5	2	6

B10) Even prime numeral sudoku   30 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. There are few grey cells in each outlined region. In each separate region there should be only even numbers (2468) OR only prime numbers (2357) in grey cells.

			4	3	
	1			4	
	3			5	
		6	4		

1	2	3	5	6	4
5	6	4	3	1	2
6	1	5	2	4	3
4	3	2	1	5	6
3	5	6	4	2	1
2	4	1	6	3	5

B11) Toroidal sudoku   15 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined irregular region. Some of the irregular regions wrap around the grid from top to bottom and/or from left to right.

1		6		2	
	4		2		6
4		5		3	
	2		3		5

1	3	6	5	2	4
3	4	1	2	5	6
2	5	3	6	4	1
5	1	2	4	6	3
4	6	5	1	3	2
6	2	4	3	1	5

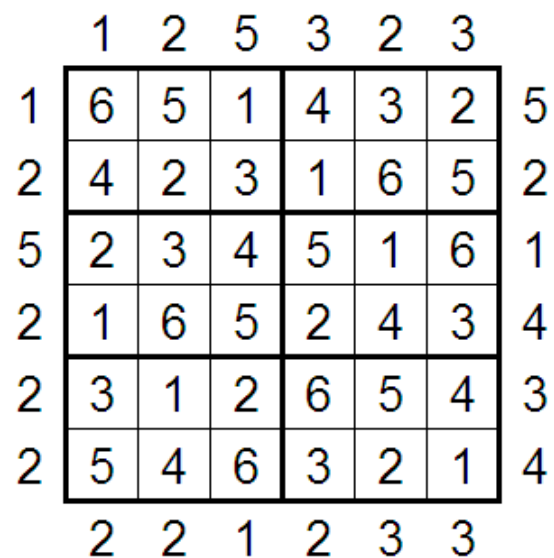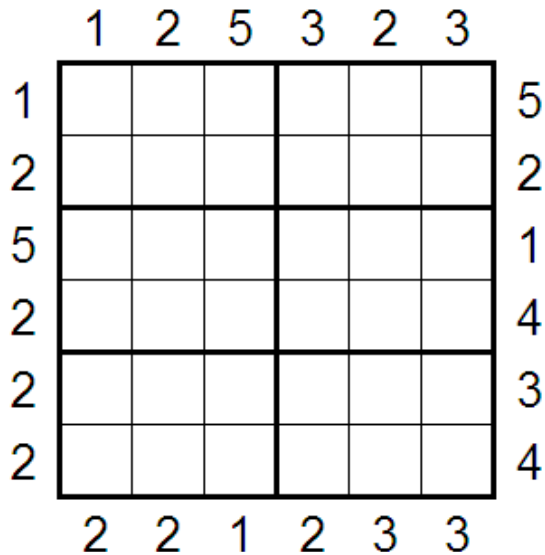**B12) Irregular sudoku without regions   67 points**

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined irregular region. However, the regions are not outlined yet, only few thick lines are given in advantage. The numbers outside the grid indicate the amount of thick lines in corresponding direction. Draw all the border lines and solve usual irregular sudoku.

The answer key for this puzzle is different. There will be one circled cell in the grid and you should inscribe all the numbers from the region of the circled cell. Start with the top left cell of the region and continue row by row. For the example puzzle the answer key should be: 416532
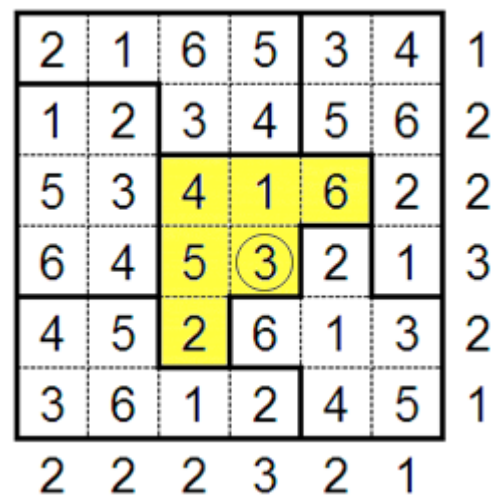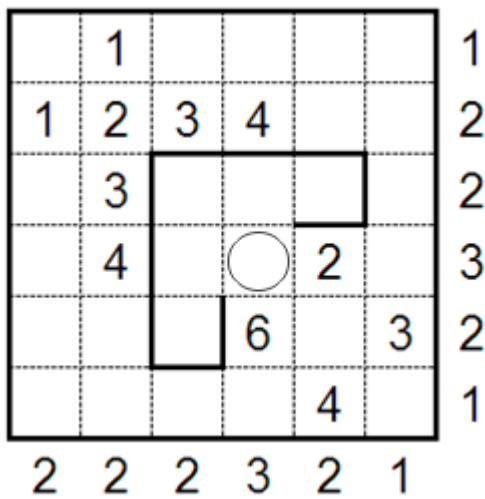
B13) Skyscrapers sudoku   29 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Each number represents the height of the skyscraper in each cell. The digits outside the grid indicate the number of skyscrapers seen from the corresponding direction. The bigger skyscrapers hide the smaller ones.

B14) Odd-even view skyscrapers sudoku   57 points

Fill in the whole grid with numbers 1-8 so that each number appears exactly once in every row, column and outlined rectangle. Each number represents the height of the skyscraper in each cell. The even digits outside the grid indicate the first visible even skyscrapers from that direction. The odd digits outside the grid indicate the first visible odd skyscrapers from that direction. The bigger skyscrapers hide the smaller ones.