



MARATHON

ONE WEEK - MANY PUZZLES - HUGE SIZES

**AUTHORS FOR
PUZZLE MARATHON
2015**

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ABOUT THE TEST

This is a differently designed LMI test.

- All puzzle grids in this test are marathon grids, i.e. they are much bigger in size than usual.
- There is no *fixed* time limit for any puzzle. The challenge for solvers is to solve all of them in least amount of time.
- The test will be open for more than a week, with the idea that everyone can get around to solve all puzzles conveniently.
- Each puzzle can be started, solved and submitted independent of others, and in any order, anytime during the week.

SCORING

Each puzzle is worth 50 points. A correct submission for a puzzle will be awarded with 50 points. Additionally bonus points will be awarded for submitting a puzzle correctly within an hour. The bonus points rules are explained at <http://logicmastersindia.com/forum/forums/thread-view.asp?pid=17811>

There are 10 puzzles. Total score for a player will be computed by summing individual puzzle scores. For players who submit more than 8 puzzles correctly, their best 8 results will be considered for ranking.

INSTANT GRADING

Instant Grading is built-in in this test, which means no player will get 0 for solving the big puzzle correctly, but making an error while keying the answer. Each submission will be marked as “correct” or “wrong”.

Following penalty rules will be applicable for wrong submissions

- 1.5 minutes will be added to your final submission time for each of the first two wrong submissions
- 3 minutes will be added to your final submission time for each of the subsequent wrong submissions

Note that there is no penalty to the fixed 50 points, in case of wrong submissions.

PUZZLE PDFS

Each puzzle will have a separate password protected pdf, the passwords being different from each other. All pdfs will be available to download hours before the test starts. Since the grids are large, they will not include the example grids.

NOTES ABOUT ANSWER KEYS

- 1) Please note that each answer key is of “fixed length”. That means if red warning is displayed while submitting, the submission can never be correct.
- 2) All circled cells follow left to right direction.
- 3) All arrow marks follow top to bottom and, then left to right direction
- 4) If both rows and columns are marked, row answer key need to be entered first
- 5) **If any row/column/cell has a double or triple digit answer key, only the unit (right-most digit) digit should be entered. (This rule is applicable to all puzzles except Statue Park).**

PUZZLE SORTING IN SUBMISSION PAGE

The puzzles will be ordered based on difficulty in the submission page. The top puzzle will be easiest and the bottom puzzle will be more difficult than any other puzzle. However, your personal experience may differ.

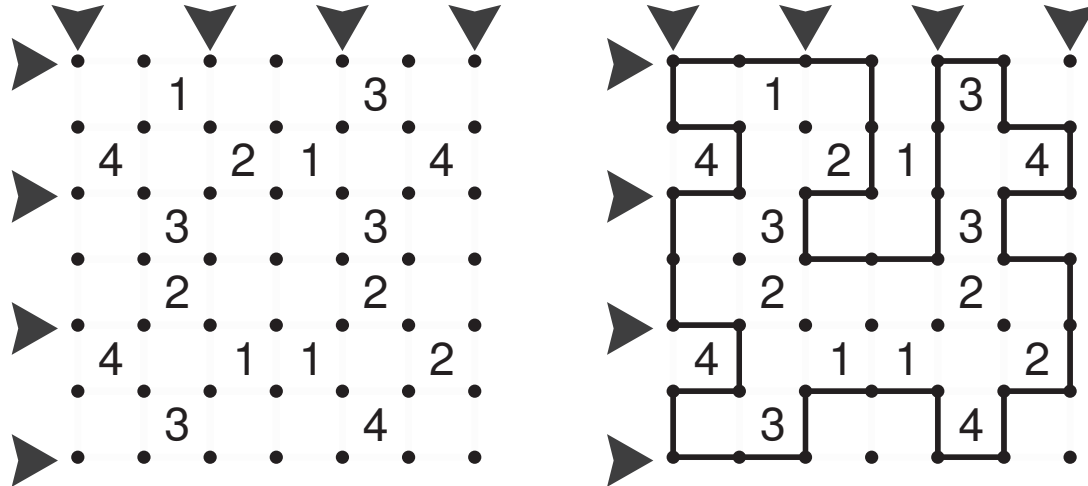


Draw a closed loop by connecting dots horizontally and vertically. The numbers in the grid indicate the amount of turns taken on the four dots around it.

Answer key 1: For each marked row, enter the lengths of the longest horizontal loop segment. For the example, answer key is 3112

Answer key 2: For each marked column, enter the lengths of the longest vertical loop segment. For the example, answer key is 2132

TURNING FENCES



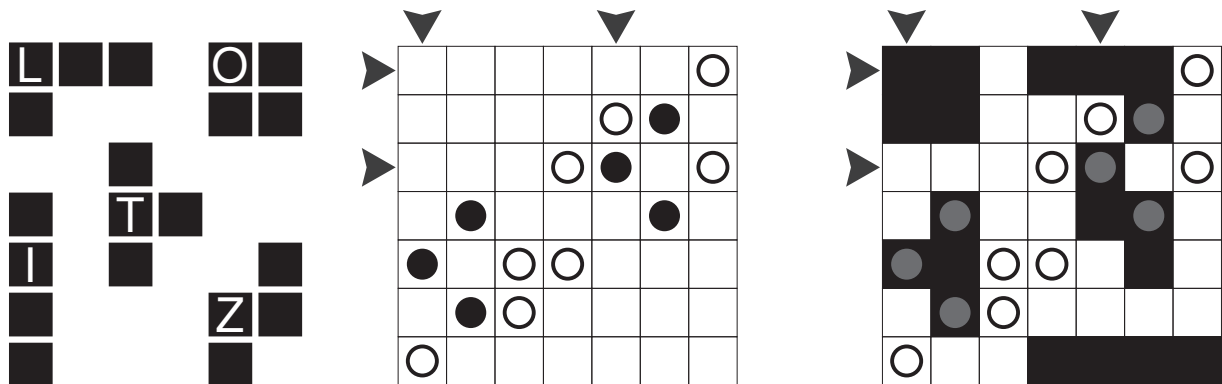
STATUE PARK

Place each of the shapes from the given bank of shapes exactly once into the grid, with rotations and reflections allowed. No two shapes can overlap or be orthogonally adjacent, and all of the space not occupied by shapes must be connected. Black circles in the grid represent spaces that must be contained in one of the shapes, and white circles represent spaces that must not be contained in a shape.

Example puzzle uses tetrominos. Contest puzzle uses 2 sets of standard pentominos. The labels in the shapes are used for answer key only.

*Answer key 1: Enter the first **three** pentominos seen along the marked rows. (- if not enough pentominos). For the example the answer key is OL-,Z--*

*Answer key 2: Enter the first **three** pentominos seen along the marked columns. (- if not enough pentominos). For the example the answer key is OT-,LZI*





Divide the grid along the dotted lines into regions called polyominoes so that no two polyominoes with the same area share an edge. Inside some cells are numbers; each number must represent the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers.

Ignore the circles while solving.

Answer key: Enter the digits in circled cells from left to right. For the example, the answer key is 194422

○							○
	2	5	4				
	3	○		2	○		
	6			1	3		
		4	9				5
			2				3
				5	4	2	
			○	○			
○		○	○	○	○		○

○1	2	5	5	5	5	2	○2
3	2	5	4	4	4	4	5
3	3	○9	9	2	○2	3	5
6	6	9	9	1	3	3	5
6	4	4	9	9	9	5	5
6	4	2	2	9	9	3	3
6	4	5	5	5	4	2	3
6	5	5	○4	○4	4	2	1
○1		○9	○4	○4	○2		○2



Place a number into each empty cell so that each cell has exactly one number and cells that contain the same number do not touch each other, not even diagonally. Each outlined area must contain the numbers from 1 to N (where N is the size of the outlined area in cells) such that consecutive numbers within an outlined area are orthogonally adjacent. (In other words, for each region it must be possible to draw a path that starts at 1 and ends at N, going through each other cell exactly once and in numerically increasing order.)

Shading is for visual / aesthetic appeal only. Ignore shading and the circles while solving.

Answer key: Enter the digits in circled cells from left to right. For the example the answer key is 43692

		○		
		1		
	○		○	
	6		4	
○				○
○		○	○	○

3	5	○6	7	1
2	4	1	8	2
1	○3	2	○9	3
5	6	1	4	1
○4	3	2	3	○2
○4	○3	○6	○9	○2



Find a snake which forms a single continuous path from the head to the tail. The head and tail of the snake are marked with black circles. Adjacent cells of the snake are connected horizontally or vertically. The snake has one cell width and cannot touch itself even at a point.

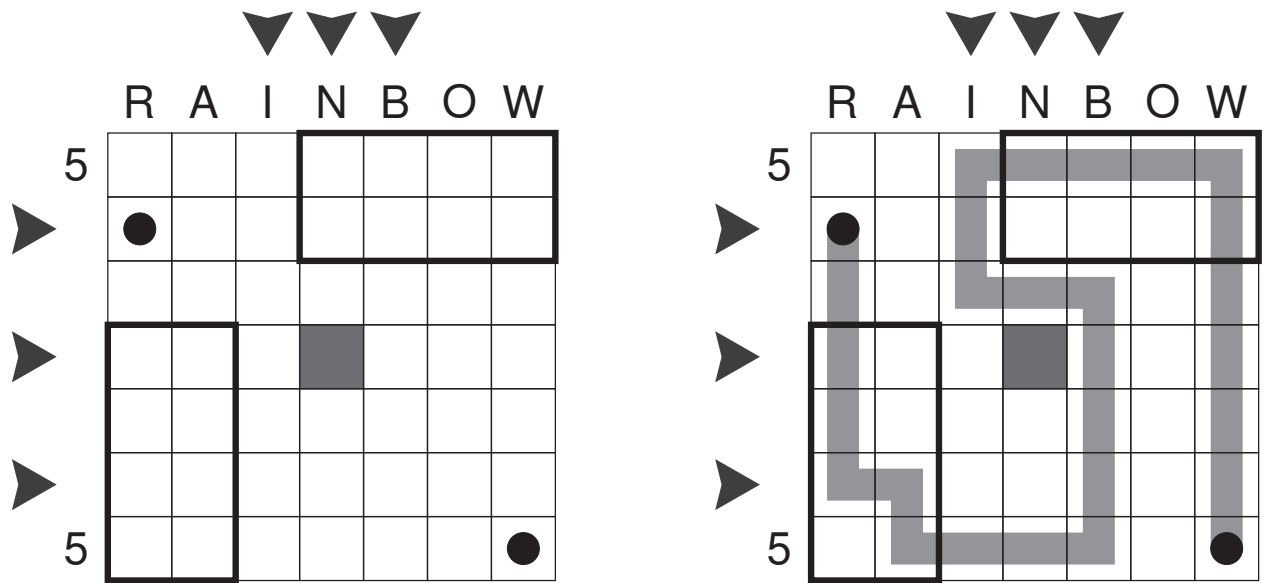
In the grid, there are some regions surrounded by thick lines. Each of these regions must contain exactly 5 segments of the snake. There are also some cells which do not belong to any region as they are not surrounded by thick lines on all sides.

Each of the alphabets at the top represents the code for a different number from 1 to 13. The example uses numbers from 1 to 7. Same alphabet indicates the same number and different alphabets indicates different numbers. The alphabets indicate the number of snake segments in the particular column. The numbers on the left indicate the number of snake segments in the particular row.

Some cells are already grayed. These cells cannot form part of the snake.

Answer key 1: # of cells occupied by the snake in the marked rows. For the example, the answer key is 334.

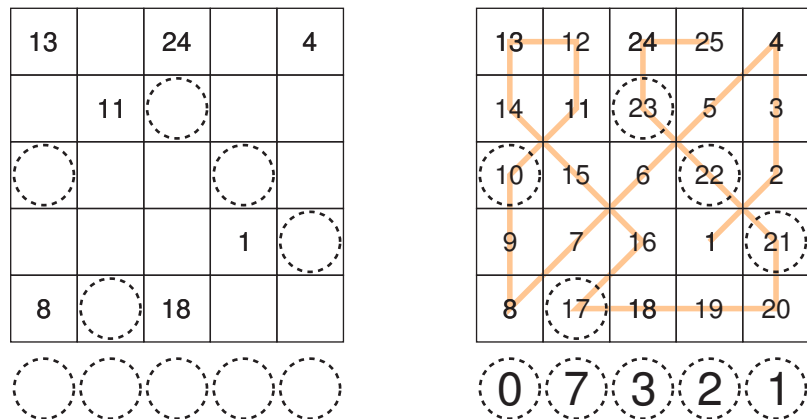
Answer key 2: # of cells occupied by the snake in the marked columns. For the example, the answer key is 436.



Write a different number between 1 and 400 (25 in the example) into every cell of the diagram, using each number exactly once. Consecutive numbers must be in orthogonally or diagonally adjacent cells.

Ignore the circles while solving.

Answer key: Enter the digits in circled cells from left to right. For the example, the answer is 07321





Place one copy of the fleet shown inside each black-edged region of the grid. The ships do not touch, not even diagonally, and cannot cross the boundaries of the regions. The number of ship segments in each row and column is indicated outside the grid. Some ship segments may be already placed.

Answer key 1: Enter the lengths of the first 3 consecutive groups of unoccupied cells for the marked rows (from left to right). Enter "-" if less than 3 groups. For the example, the answer is 11-,11-,5---,21-

Answer key 2: Enter the lengths of the first 3 consecutive groups of unoccupied cells for the marked columns (from top to bottom). Enter "-" if less than 3 groups. For the example, the answer is 11-,23-,5---,12-



Shade some empty cells black so that the grid is divided into white areas, each containing exactly one number and with the same area in cells as that number. Two white areas may only touch diagonally. All black cells must be connected with each other, but no 2x2 group of cells can be entirely shaded black.

Answer key 1: Enter the lengths of longest horizontal shaded cell block for the marked rows. For the example, the answer is 3234

Answer key 2: Enter the lengths of longest vertical shaded cell block for the marked columns. For the example, the answer is 2217



Fill the grid digits from 1 to 3 (1 to 2 in the example), so that each region includes all digits exactly once. Same digits cannot touch each other, even diagonally. Outside clues show the sum of all numbers in the corresponding direction. Numbers should be read from left to right or top to bottom.

Shading is for visual / aesthetic appeal only. Ignore shading and the circles while solving.

Answer key: Enter the digits in circled cells from left to right. Enter X for blank cells. For the example, the answer is 2X1XX2

2121
3
2
6
2

121 23 2 2 23

○ ○ ○ ○ ○ ○

	2	1	2	1	
1					2
2			2		1
1		1			
	2		2		2
	1			1	

2121
3
2
6
2

121 23 2 2 23

○ 2 ○ X ○ 1 ○ X ○ X ○ 2 ○



Write all given names into the grid to form connected crossword. The names should be read from top to bottom or from left to right. There cannot be other words in the grid. All cells where words begin are marked. Draw a single closed loop going horizontally or vertically through centers of all empty cells.

Answer Key 1: Enter the letters in the shaded cells for the marked rows. For the example, the answer key is RA

Answer Key 2: Enter the number of turns of the loop, for the marked columns. For the example, the answer key is 0042

A								
B								

ANDREY
RIAD
RUBEN

A		R	U	B	E	N		
			I					
B	A	N	D	R	E	Y		