puzzle
ramayan

and

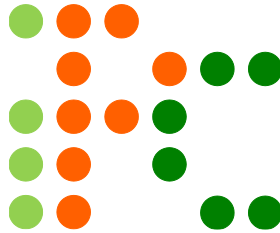**Episode – 3**
20th – 25th March 2020

Shading and Loops
by
Swaroop Guggilam

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2020. Please check http://logicmastersindia.com/PR/2020pr.asp **for details.**

Some grids of this round will be dedicated to the memory of **Shaheer Rahman,** who was one of the best Sudoku players of India.
He met with a fatal road accident on 23rd February 2020.

Important Links

Submission Page : http://logicmastersindia.com/PR/202003/

Discussion Thread : http://logicmastersindia.com/t/?tid=2731

F. A. Q. : http://logicmastersindia.com/t/?tid=381

Registration, if required : http://logicmastersindia.com/register.asp

About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3* Nurikabe
- 3* Windows
- 3* Trio Cut
- 2* Border Nurikabe
- 3* Yajilin
- 3* Ripple Loop
- 3* Myopia
- 2* Transparent Yajilin

How to participate?

- Understand the rules of different puzzles that will appear in this episode. This Instruction Booklet has rules for each puzzle.
- Download the password protected Puzzle booklet (will be uploaded before the test starts). The Puzzle booklet contains the actual Puzzles to be solved. It is password protected, so you won't be able to open it.
- Any time on or after 20th March (but on or before 25th March), login at the submission page using your LMI userid and password. Please check the submission page for exact timing.
- Click on "Start". At this time, password for pdf will be shown and timer will start.
- The puzzle booklet should be downloaded, printed and solved on paper.
- There will not be any interface / applet to solve the puzzles on web browser.
- Most of the puzzles are designed to be solved faster on paper.
- We advise you to have a printer accessible with enough paper.
- Outside solving help of any kind is not permitted. This includes but is not limited to: assistance of any kind from any other person; prepared notes, books, calculators, computers, or tools other than items explicitly permitted.
- You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.

If you are participating at LMI for first time, you must check the F.A.Q. at
http://logicmastersindia.com/t/?tid=381.

About answer keys and Submission

- Each puzzle has some answer keys, as described in the instructions.
- After solving the puzzle, you need to submit the puzzle using the answer keys.
- You may submit the answer keys anytime during the test duration. You may consider submitting a puzzle as soon as you solve it.
- Answer keys are always to be entered from left to right or top to bottom
- Don't enter any separator unless specified in the answer key
- If one row and one column is marked, enter the row first and then the column
- If multiple rows are marked, enter from top to bottom for marked rows
- If multiple columns are marked, enter from left to right for marked columns
- If horizontal and vertical keys are needed, first enter the horizontal and then the vertical
- Uppercase or lower case of answer key does not matter
- Characters other than alphabets, numbers and comma will be removed while checking the answer

Points Table and Scoring

Points typically indicate difficulty of the Puzzles and time required to solve them. You will get full points if you enter the correct answer key. While the organizers have made best efforts to match them, your personal experience and preference may differ.

Nurikabe	1, 4, 5
Windows	4, 4, 7
Trio Cut	1, 4, 7
Border Nurikabe	2, 12
Yajilin	1, 6, 10
Ripple Loop	2, 3, 10
Myopia	2, 5, 2
Transparent Yajilin	2, 6

This test uses instant grading where a solver can submit any individual Puzzle and receive confirmation that the solution is correct or not. Each incorrect submission reduces the puzzle's potential score. The first, second, third, and fourth incorrect submissions reduce the potential score to 90%, 70%, 40%, and 0% respectively.

Bonus and Ranking

If you submitted all Puzzles correctly, you can have bonus points 1 point per minute saved, computed up to seconds.

Ranking will be based on following rules in order:
1. Most total points
2. Earliest final submission time, up to seconds (ignoring incorrect submissions)

About the Puzzle Booklet

The password protected Puzzle booklet will have 10 pages. We expect you to print and solve on paper, so you would need to have a printer accessible with enough paper.

1-3 Nurikabe

Shade some cells black so that the grid is divided into non-overlapping white regions. Cells are considered to be in the same region if they are adjacent horizontally or vertically. Each given number must be in a white region that has the same area in cells as that number. Each white region must have exactly one given number. All black cells must be connected with each other, but no 2×2 group of cells can be entirely shaded black.

Puzzles in the contest will be of grid sizes 6x6, 8x8 and 8x8.
This example is of grid size 7x7.
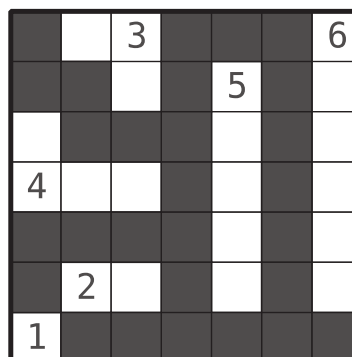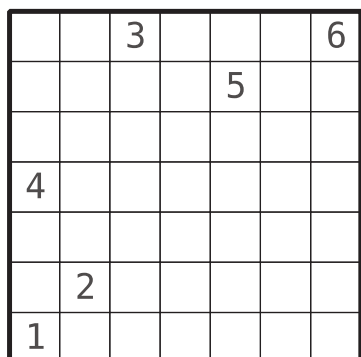
Answer Key: Enter the longest number of continuous shaded cells for each row from top to bottom. Enter 0 for a row, if there are no shaded cells in that row.
Example: 3231416

4-6 Windows

Shade exactly two cells in each of the thickly outlined 2x2 regions, i.e. the Windows. Shaded cells must form a single connected area. All white cells must be connected horizontally or vertically through other white cells to an edge of the grid. No 2x2 area can contain all shaded cells or all white cells.

Puzzles in the contest will be of grid sizes 6x6, 8x8 and 10x10.
This example is of grid size 6x6.
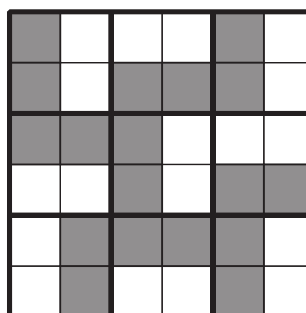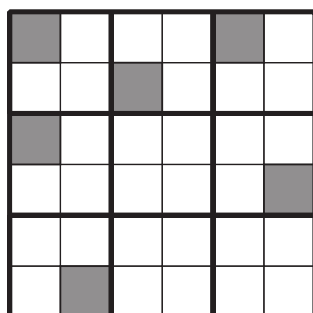
Answer Key: Enter the longest number of continuous shaded cells for each row from top to bottom. Enter 0 for a row, if there are no shaded cells in that row.
Example: 133241

**Some solving tricks for this puzzle can be found here:**
https://drive.google.com/file/d/0B-1TteOwGbxHcHNlWkR0UjFUMEU/view

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puzzle ramayan

Shading and Loops

7-9 Trio Cut

1 + 4 + 7 points

Shade some cells so that they form triominos. Each triomino must be cut twice by a black border. Different triominos must not touch each other by an edge. Each black-bordered region must contain exactly three shaded cells. Cells in the same region may belong to the same triomino.

Puzzles in the contest will be of grid sizes 6x6, 8x8 and 8x8.
This example is of grid size 6x6.
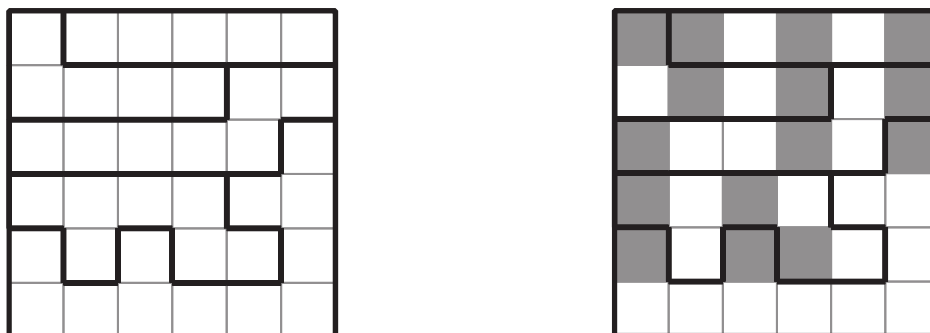
Answer Key: Enter the longest number of continuous shaded cells for each row from top to bottom. Enter 0 for a row, if there are no shaded cells in that row.
Example: 211120

10-11 Borders Nurikabe

2 + 12 points

Shade some cells black so that the grid is divided into non-overlapping white regions. Cells are considered to be in the same region if they are adjacent horizontally or vertically. Each given number must be in a white region that has the same area in cells as that number. Each white region must have exactly one given number. All black cells must be connected with each other, but no 2×2 group of cells can be entirely shaded black. Also, some borders are drawn in the grid between adjacent cells. One side of each border must be shaded black and the other side must be white.

Puzzles in the contest will be of grid sizes 6x6 and 10x10.
This example is of grid size 6x6.
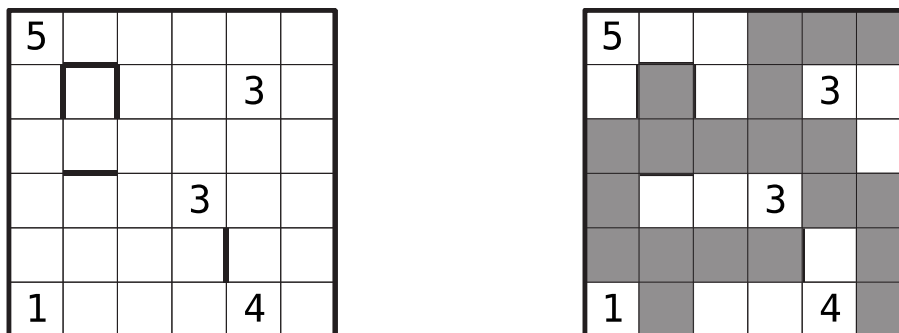
Answer Key: Enter the longest number of continuous shaded cells for each row from top to bottom. Enter 0 for a row, if there are no shaded cells in that row.
Example: 315241

12-14 Yajilin

1 + 6 + 10 points

Blacken some white cells and draw a closed loop passing through centres of all remaining white cells horizontally or vertically. Blackened cells cannot share an edge with each other. Some cells are outlined and in grey and cannot be part of the loop. Numbered arrows in such cells indicate the total number of blackened cells in the direction pointed at by the arrow.

Puzzles in the contest will have grid sizes 6x6, 8x8, and 10x10.
The example below has grid size 6x6.
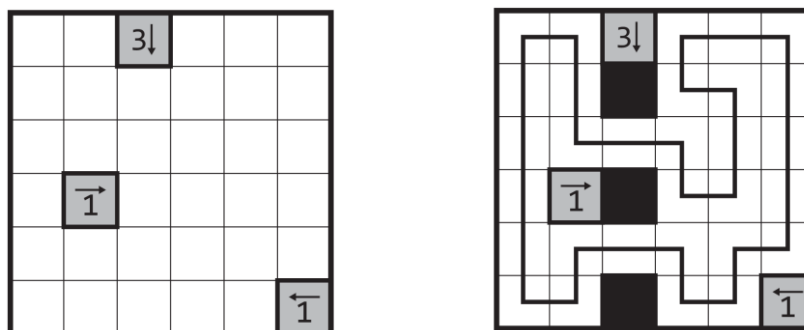
Answer Key: Enter the lengths of longest horizontal loop segment for each row from top to bottom. Enter 0 for a row, if there are no horizontal loop segments in that row.
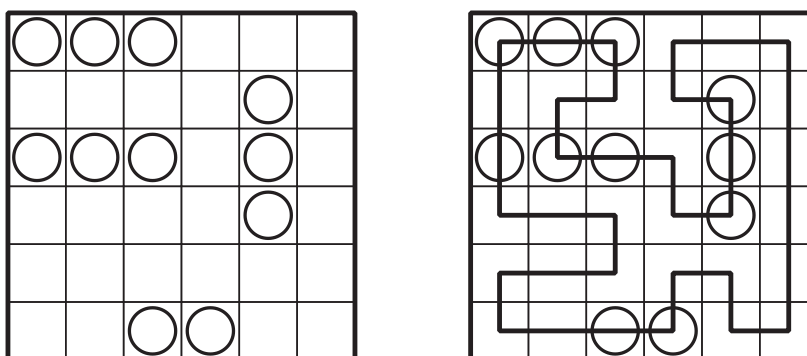**Example:** 212121

15-17 Ripple Loop

2 + 3 + 10 points

Draw a closed loop that connects the centres of all cells horizontally or vertically. Wherever two circles are in vertically or horizontally adjacent cells, the loop must go straight through one, and make a right angle turn in the other.

Puzzles in the contest will be of grid sizes 6x6, 8x8 and 10x10.
The example below is of grid size 6x6.

Answer Key: Enter the lengths of longest horizontal loop segment for each row from top to bottom. Enter 0 for a row, if there are no horizontal loop segments in that row.
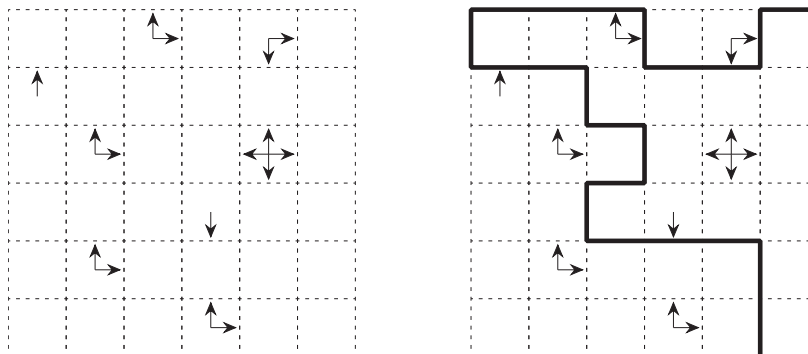**Example:** 212223

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Shading and Loops

18-20 Myopia

Draw a closed loop along the dashed lines. The arrows in the grid indicate the direction(s) in which the loop is closest when looking from that cell.

Puzzles in the contest will be of grid sizes 6x6, 8x8 and 6x6.
The example below is of grid size 6x6.

Answer Key: Enter the lengths of longest horizontal loop segment for each row from top to bottom. Enter 0 for a row, if there are no horizontal loop segments in that row.
**Example:** 3211301

21-22 Transparent Yajilin

Blacken some white cells and draw a closed loop passing through centres of all remaining white cells horizontally or vertically. Blackened cells cannot share an edge with each other. The loop can pass through clue cells, and clue cells that are not passed through must be blackened. Numbered arrows in white cells indicate the total number of blackened cells in the direction pointed at by the arrow. Numbers in blackened clue cells do not necessarily have to be satisfied.

The puzzles in the contest will have grid sizes 6x6 and 8x8.
The example below has grid size 6x6.
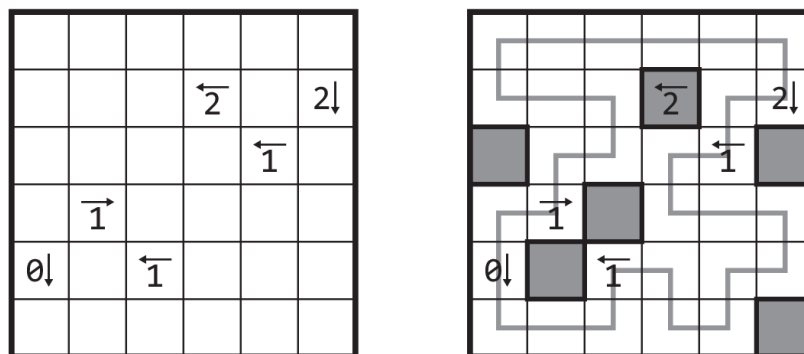
Answer Key: Enter the lengths of longest horizontal loop segment for each row from top to bottom. Enter 0 for a row, if there are no horizontal loop segments in that row.
Example: 521212