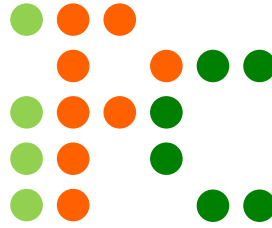


puzzle Ramayan

and



Episode – 8
16th – 21st July 2021

Made In India & Evergreens
by
Madhav Sankaranarayanan

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2021. Please check <http://logicmastersindia.com/PR/2021pr.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/live?contest=PR202108>

Discussion Thread : <http://logicmastersindia.com/t/?tid=2877>

F. A. Q. : <http://logicmastersindia.com/t/?tid=2773>

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

About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3* Balance Loop
- 3* Canal View
- 3* Regional Loop
- 2* Canal View (LITS)
- 3* Yin Yang
- 3* Arrows
- 3* Snake
- 2* Yin Yang (Outside)

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 16th July (but on or before 21st July), login at the submission page using your LMI user-id 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 contest duration is 90 minutes.**
- The puzzle booklet can be downloaded, printed and solved on paper.
- There will not be any interface / applet to solve the puzzles on web browser, but external Penpa links will be provided. The participant is still expected to come back and enter the answer key if solving using the links.
- 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=2773>.

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 the ones explicitly expected by the answer key will cause the red highlight to appear around the submission box.
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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.

Balance Loop	2, 6, 7
Canal View	1, 2, 3
Regional Loop	4, 10, 12
Canal View (LITS)	6, 6
Yin Yang	2, 3, 4
Arrows	2, 5, 7
Snake	2, 4, 6
Yin Yang (Outside)	3, 3

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. A demonstration for this is shown below.

Original points

04 Araf	50 points	4A	Sum should be 10
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Potential points after 1 incorrect submission

04 Araf	45 / 50	4A	1234
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Potential points after 2 incorrect submissions

04 Araf	35 / 50	4A	23311
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Potential points after 3 incorrect submissions

04 Araf	20 / 50	4A	111111111
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Potential points after 4 incorrect submissions

04 Araf	0 / 50	4A	541
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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)

Penpa Usage

This contest will also be solvable on the Penpa-Edit software. Below the rules of each puzzle will be a link to click to solve on the editor. The editor DOES NOT have a solution enabled so it will not check a solution. Participants must submit the answer key codes as they would with paper solving. It is therefore advisable to enter solution codes one at a time. To practice on the editor, we have given links for solving the example puzzles too.

Credits

- **Yosh (rand_yosh314)** & **Murat Can Tonta** for test solving the puzzles and providing invaluable feedback.
- The original creator **opt-pan** for penpa edit - <https://opt-pan.github.io/penpa-edit/>
- **Swaroop Guggilam** for his recent efforts in adding features to Penpa-edit - <https://swaroopg92.github.io/penpa-edit/>

About the Puzzle Booklet

The password protected Puzzle booklet will have 8 pages. We expect you to print and solve on paper, so you would need to have a printer accessible with enough paper.

Solutions and keys (including the key explanation) to examples are towards the end of the booklet in the Solutions section.

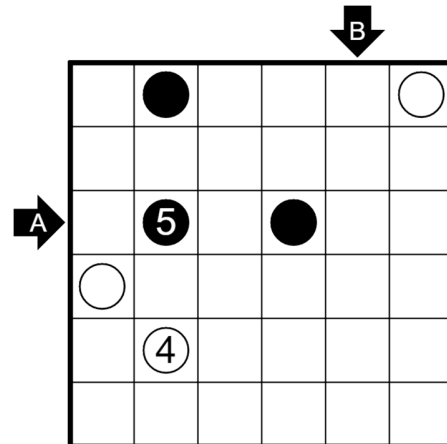
1-3 Balance Loop

Draw a non-intersecting loop through the centers of some cells that passes through every circle. The straight line segments coming out of a white circle must have equal length, while the straight line segments coming out of a black circle must have different lengths. A clue in a circle represents the sum of the lengths of these two line segments.

[The puzzles in the contest will be of sizes 8x8, 9x9 and 10x10 respectively. This example is 6x6.]

Penpa for example: <https://git.io/JCLoX>

2 + 6 + 7 points



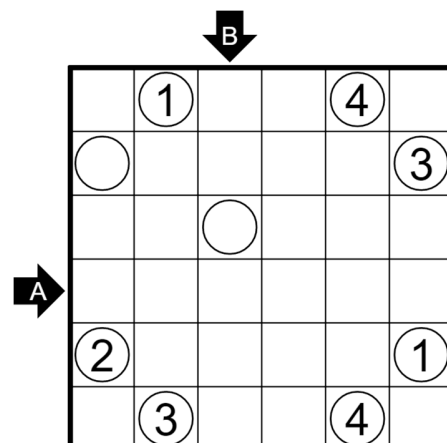
4-6 Canal View

Shade some cells so that all shaded cells form one orthogonally connected area. Clues cannot be shaded, and represent the number of shaded cells connected in a straight line horizontally or vertically to the clue. No 2x2 region may be entirely shaded.

[The puzzles in the contest will be of sizes 8x8, 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLDn>

1 + 2 + 3 points



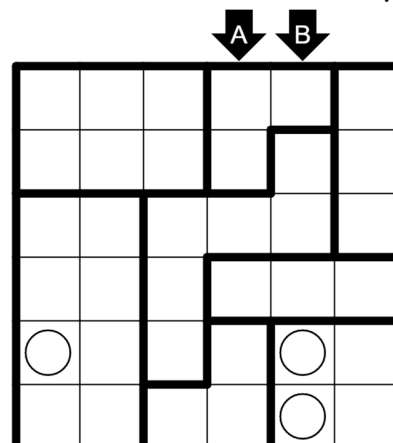
7-9 Regional Loop

Draw a non-intersecting loop through the centers of some cells which passes straight through all cells with circles. The loop must turn exactly the same number of times in every region that it visits. This number must be determined by the solver.

[The puzzles in the contest will be of sizes 8x8, 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLKb>

4 + 10 + 12 points



10-11 Canal View (LITS)

Apply regular Canal View rules.

Additionally, the shaded region must be able to be split into tetrominoes in such a way that all tetrominoes are connected but no two tetrominoes sharing an edge are the same shape, including rotations and reflections).

A single shape bank like the one below the grid will be provided at the bottom of the page, as it is just reference for both grids and relevant to the answer key. The penpa links will both have the bank separately. The example penpa link does not have the bank, the one on this page can be used as reference.

[The puzzles in the contest will be of sizes 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLMc>

6 + 6 points

12-14 Yin Yang

Place a circle into each cell of the grid - some white and some black - such that all circles of the same type must lie in cells forming one orthogonally connected area. No 2x2 region may contain entirely one type of circle.

[The puzzles in the contest will be of sizes 8x8, 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLzG>

2 + 3 + 4 points

15-17 Arrows

Place an arrow into each indicated space outside the grid facing one of the eight main directions. Each arrow must point to at least one cell inside the grid, and a number inside the grid indicates how many arrows are pointing at it.

[The puzzles in the contest will be of sizes 4x4, 5x5 and 6x6. This example is 4x4.]

Penpa for example: <https://git.io/JCLXq>

2 + 5 + 7 points

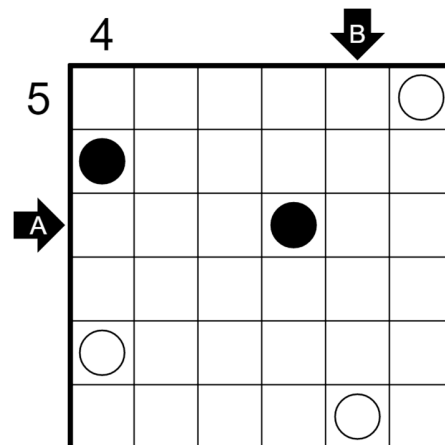
18-20 Snake

2 + 4 + 6 points

Shade some cells to form a non-intersecting path of 1-cell width which does not touch itself, not even diagonally. A black circle must lie on an end of the path. A white circle must lie somewhere along the path, but not at an end. A number outside the grid represents how many cells in the corresponding row or column are shaded.

[The puzzles in the contest will be of sizes 8x8, 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLy4>



21-22 Yin Yang (Outside)

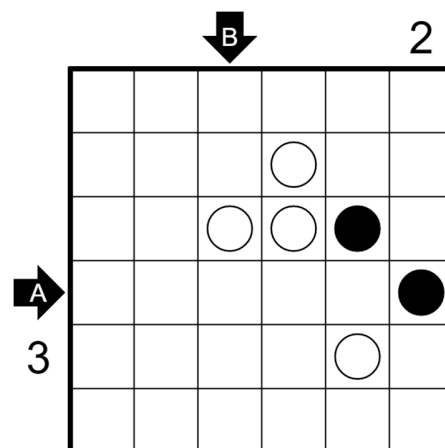
3 + 3 points

Apply regular Yin Yang rules.

Additionally, clues outside the grid give the number of black circles in that direction.

[The puzzles in the contest will be of sizes 9x9 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JCLup>



Solutions

For this round, all answer keys will NOT be the same for all puzzles.

The keys are given section by section.

Balance Loop, Regional Loop – For each marked row/column, enter the lengths of loop segments in that direction - from left to right / top to bottom. Enter 0 if there are no segments along the row/column.

Canal View, Snake – For each marked row/column, enter the lengths of consecutive shaded and unshaded blocks in the direction of the arrow. Use unit's digit for double digit values.

Canal View (LITS) – For each marked row/column, enter the letter corresponding to each shape that appears in the direction of the arrow. If multiple cells are covered by the same shape, enter it just once, but if different instances of the same shape occur, enter the corresponding letter once for each instance. Enter 0 if there are no shapes in that direction.

Yin Yang, Yin Yang (Outside) – For each marked row/column, enter the lengths of consecutive cells occupied by each type of circle in the direction of the arrow. Use unit's digit for double digit values.

Arrows – Enter the total number of diagonally pointing arrows.

