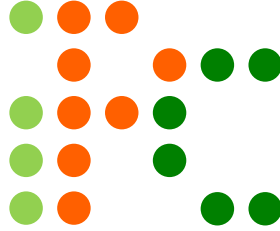


puzzle Ramayan

and



Episode – 4
6th – 11th May 2022

Number Placement & Puzz.link
by
Nityant Agarwal

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2022. Please check <http://logicmastersindia.com/PR/2022pr.asp> for details.

Important Links

Submission Page : <http://logicmastersindia.com/live?contest=PR202204>

Discussion Thread : <http://logicmastersindia.com/t/?tid=3027>

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* Kropki
- 3* Kakuro
- 3* Doppelblock
- 3* Scrin
- 3* Shimaguni
- 3* Tasquare
- 2* Kakuro [Kropki]
- 2* Shimaguni [Odd-Even]

How to participate?

- Understand the rules of different puzzles that will appear in this episode. This Instruction Booklet has rules for each puzzle.
- Any time on or after 6th May (but on or before 11th May), login at the submission page using your LMI user-id and password. Please check the submission page for exact timing.
- **If you plan to solve on paper:**
 - a) 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.
 - b) Click on "Start". At this time, password for pdf will be shown and timer will start. **The contest duration is 60 minutes.**
 - c) The puzzle booklet can be downloaded, printed and solved on paper.
 - d) We advise you to have a printer accessible with enough paper.
 - e) You are allowed to use writing implements, eraser, blank paper (including commercial graph paper), ruler, scissors, and tape.
- **If you plan to solve on LMI's Penpa-Integrated Interface:**
 - a) Click on this link and understand the instructions - <https://logicmastersindia.com/live/faq-online-solving.asp>
 - b) It is noted on the link too, but we note it here as well to be clear – the participants must still input the answer keys in the boxes below the puzzle and submit them to receive credit as given below.
- 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.
- Participants may use both paper solving and online solving, even interchangeably. Eventually our system will only count anything submitted in the submission boxes in either mode.

If you are participating at LMI for first time, it will be useful to 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
- Uppercase or lower case does not matter for answer keys where letters must be entered.
- Characters other than the ones explicitly expected by the answer key will cause the red highlight to appear around the submission box.

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.**

Kropki	3, 6, 8
Kakuro	7, 5, 12
Doppelblock	3, 2, 6
Scrin	1, 2, 3
Shimaguni	5, 6, 11
Tasquare	1, 2, 2
Kakuro [Kropki]	3, 5
Shimaguni [Odd-Even]	1, 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. 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)

Credits

- **David Altizio (A.K.A. djmathman), Jacob Cohen (A.K.A. Conflux) & Yosh (rand_yosh314)** 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/> and also working to integrate it with our contest engine.

About the Puzzle Booklet

The password protected Puzzle booklet will have 10 pages. This is relevant only for paper solvers.

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

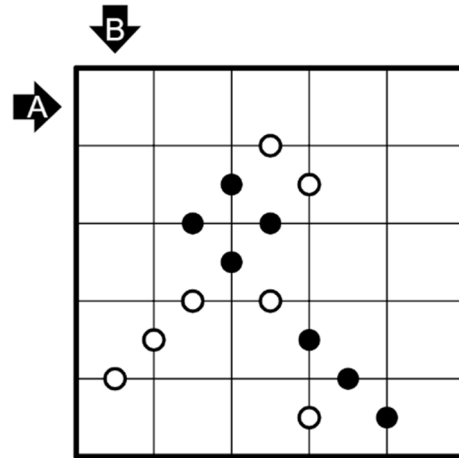
1-3 Kropki

3 + 6 + 8 points

Place a number from 1 to N into each cell so that each row and column contains every number with no repeats, where N is the side length of the grid. All pairs of orthogonally adjacent cells containing numbers with a 1:2 ratio are marked with a black dot. All pairs of orthogonally adjacent cells containing consecutive numbers are marked with a white dot. A 1 next to a 2 may be marked with either dot.

[The puzzles in the contest will be of sizes 6x6, 8x8 and 8x8. This example is 5x5.]

Penpa for example: <https://tinyurl.com/y6nls8tb>



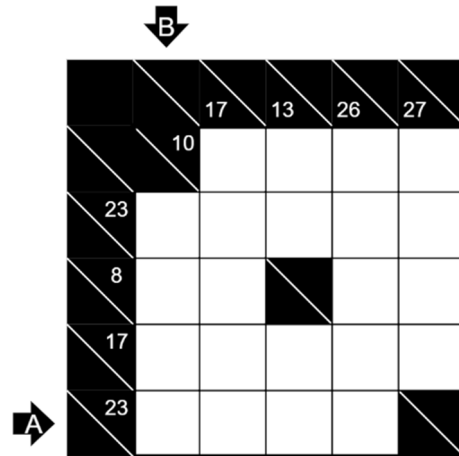
4-6 Kakuro

7 + 5 + 12 points

Fill in the white cells in the grid with digits from 1 to 9. The sum of digits in each horizontal / vertical group of cells is given on its left/top. Digits do not repeat within any set of consecutive white cells.

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

Penpa for example: <https://tinyurl.com/y3t385sz>



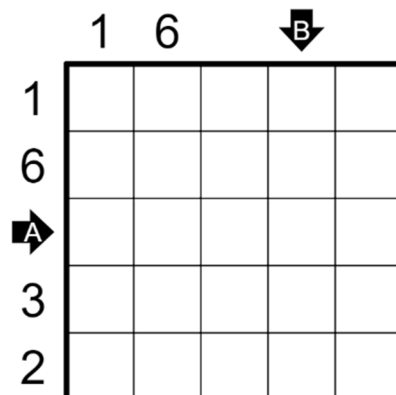
7-9 Doppelblock

3 + 2 + 6 points

Place a number from 1 to N-2 into some cells so that each row and column contains every number from that range with no repeats, where N is the side length of the grid, and shade the remaining two cells of each row and column. A clue outside the grid indicates the sum of the digits which appear between the two shaded cells in the corresponding row or column.

[The puzzles in the contest will be of sizes 6x6, 6x6 and 7x7. This example is 5x5.]

Penpa for example: <https://tinyurl.com/y6yv8k8k>



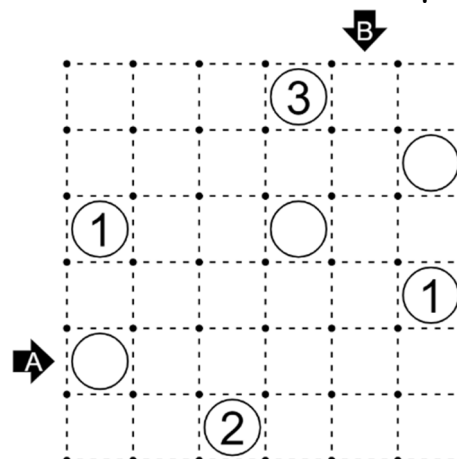
10-12 Scrin

Shade some cells so that each orthogonally connected area of shaded cells is in the shape of a rectangle. The shaded rectangles must all form a single loop through diagonal connections, with no branches. All cells with circles must be shaded, and if a circle contains a number, its shaded rectangle must contain the indicated number of cells. A shaded rectangle may contain 0 or 1 circles.

[The puzzles in the contest will be of sizes 10x10, 10x10 and 11x11. This example is 6x6.]

Penpa for example: <https://tinyurl.com/yyy6s4f7>

1 + 2 + 3 points



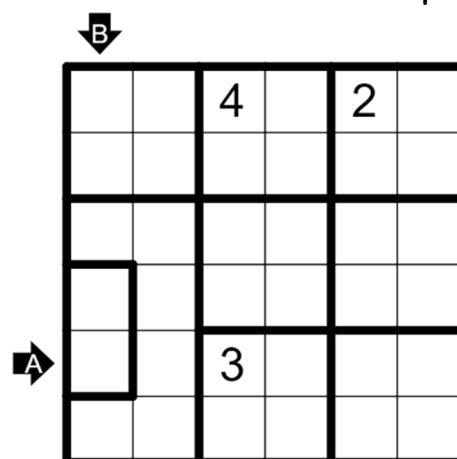
13-15 Shimaguni

Shade a single group of orthogonally connected cells in each region. Shaded groups may not share a bold border. Regions with numbers must contain the indicated amount of shaded cells. Each region must contain at least one shaded cell, and no two adjacent regions may contain the same number of shaded cells.

[The puzzles in the contest will be of sizes 10x10, 10x10 and 11x11. This example is 6x6.]

Penpa for example: <https://tinyurl.com/yxuyq9j9>

5 + 6 + 11 points



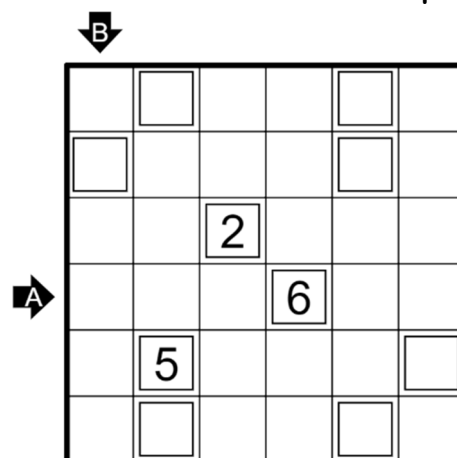
16-18 Tasquare

Shade some cells so that each orthogonally connected area of shaded cells is in the shape of a square and the remaining unshaded cells form one orthogonally connected area. Clued cells cannot be shaded, and represent the total size of the shaded squares that share an edge with the clue. If a clue has no number, it must share an edge with at least one shaded square.

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

Penpa for example: <https://tinyurl.com/yyro9v6s>

1 + 2 + 2 points



19-20 Kakuro [Kropki]

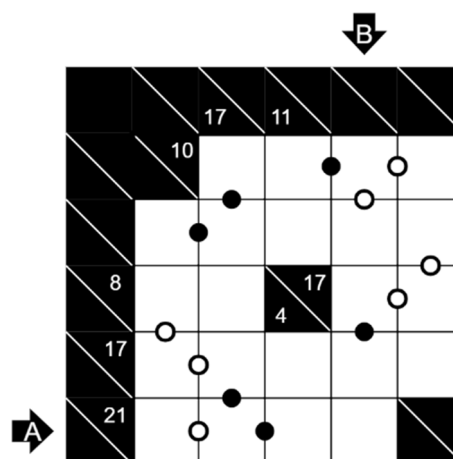
3 + 5 points

Fill in the white cells in the grid with digits from 1 to 9. The sum of digits in each horizontal / vertical group of cells is given on its left/top. Digits do not repeat within any set of consecutive white cells.

All pairs of orthogonally adjacent cells containing numbers with a 1:2 ratio are marked with a black dot. All pairs of orthogonally adjacent cells containing consecutive numbers are marked with a white dot. A 1 next to a 2 may be marked with either dot.

[The puzzles in the contest will be of sizes 7x7 and 8x8. This example is 6x6.]

Penpa for example: <https://tinyurl.com/y5z3kskw>



21-22 Shimaguni [Odd-Even]

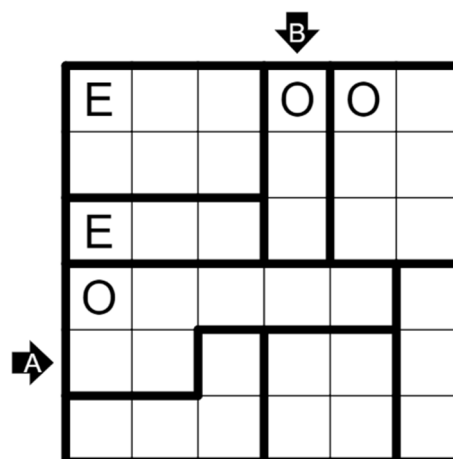
1 + 6 points

Shade a single group of orthogonally connected cells in each region. Shaded groups may not share a bold border. Regions with numbers must contain the indicated number of shaded cells. Each region must contain at least one shaded cell, and no two adjacent regions may contain the same number of shaded cells.

In this variant, numbers are replaced by the letters O and E, to denote an odd number or an even number respectively.

[The puzzles in the contest will be of sizes 7x7 and 8x8. This example is 6x6.]

Penpa for example: <https://tinyurl.com/y2cnthfs>



Solutions

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

The keys are given section by section.

Kropki, Kakuro, Doppelblock, Kakuro [Kropki] – For each marked row/column, enter the numbers in the direction of the arrow. Enter the numbers in white cells inside the grid only. Enter X for shaded cells (for Doppelblock).

Scrin, Shimaguni, Tasquare, Shimaguni [Odd-Even] – For each marked row/column, enter the number of consecutive shaded and unshaded cells in the direction of the arrow.

Kropki

↓ B					
A →	2	5	3	1	4
	5	2	4	3	1
	1	4	2	5	3
	4	3	1	2	5
	3	1	5	4	2

Key: 25314, 25143

Kakuro

↓ B						
A →		17	13	26	27	
		10	1	4	2	3
	23	1	2	9	3	8
	8	3	5		8	9
	17	2	3	1	4	7
	23	5	6	3	9	

Key: 5639, 1325

Doppelblock

↓ B	1	6			
A →	2		1		3
		1	3	2	
	1	2		3	
		3		1	2
	3		2		1

Key: 12X3X, X231X

Scrin

↓ B					
A →			3		
	1				
					1
			2		

Key: 1221, 111111

Shimaguni

↓ B					
A →		4		2	
		3			

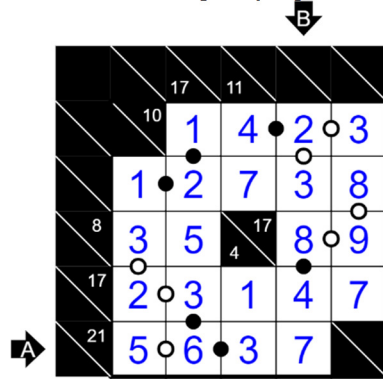
Key: 1212, 111111

Tasquare

↓ B					
A →					
		2			
			6		
	5				

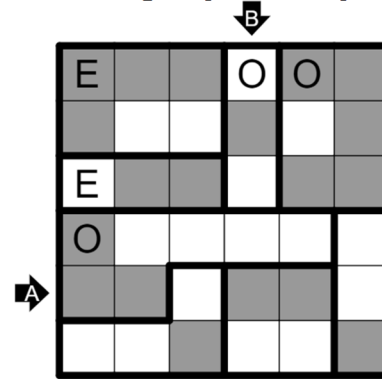
Key: 411, 1311

Kakuro [Kropki]



Key: 5637, 23847

Shimaguni [Odd-Even]



Key: 2121, 11211