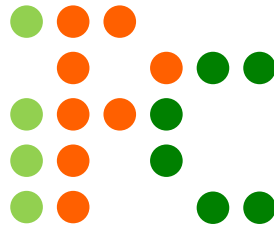


# puzzle रामायण

and



Episode – 7  
18<sup>th</sup> – 23<sup>rd</sup> June 2021

Shading  
by  
Nityant Agarwal

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=PR202107>

Discussion Thread : <http://logicmastersindia.com/t/?tid=2859>

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

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

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## About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3\* Norinori
- 3\* LITS
- 3\* Heyawake
- 3\* Kurodoko
- 3\* Kurotto
- 3\* Tapa
- 2\* Easy As LITS
- 2\* Kurotto Connections

## 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 18<sup>th</sup> June (but on or before 23<sup>rd</sup> June), 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.

Norinori	3, 2, 6
LITS	4, 4, 6
Heyawake	2, 5, 8
Kurodoko	2, 4, 7
Kurotto	4, 7, 8
Tapa	2, 1, 4
Easy As LITS	3, 6
Kurotto Connections	4, 8

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	1111111111
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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

- **Amit Sowani, Shye and 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/>

## 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.

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

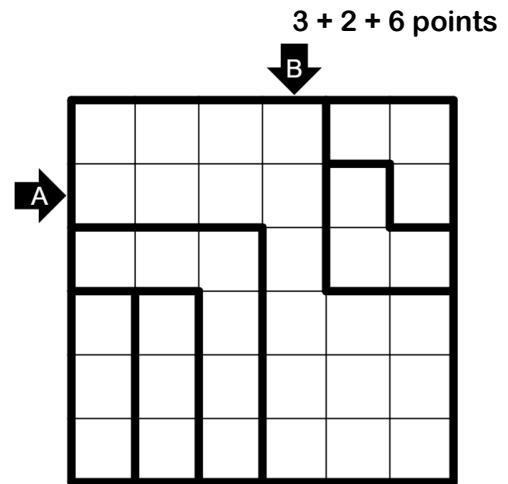
*Also, all Penpa links have been set to surface – RED (examples too) because it works better in contrast with the thick outlines than dark grey or black.*

### 1-3 Norinori

Shade some dominoes of cells so that every region contains exactly two shaded cells. Shaded dominoes may not touch orthogonally.

[The puzzles in the contest will be of sizes 8x8, 8x8 and 11x11. This example is 6x6.]

Penpa for example: <https://git.io/Jnq0J>

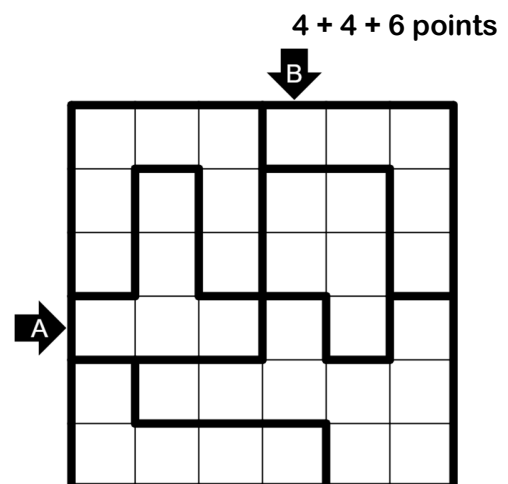


### 4-6 LITS

Shade one tetromino of cells in each region so that all shaded cells form one orthogonally connected area. Two tetrominoes of the same shape may not share a bold border, counting rotations and reflections as the same. No 2x2 region may be entirely shaded.

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

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

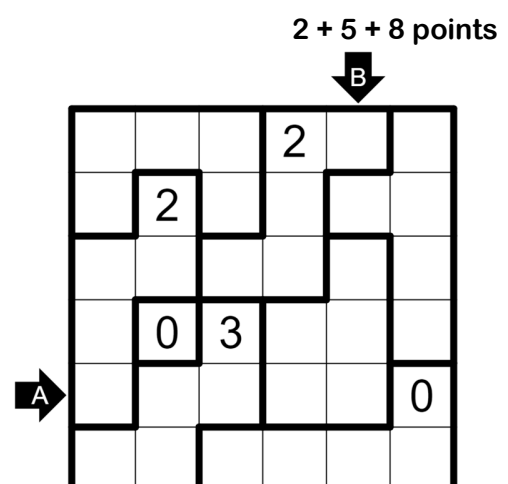


### 7-9 Heyawake

Shade some cells so that no two shaded cells are orthogonally adjacent and the remaining unshaded cells form one orthogonally connected area. Numbered regions must contain the indicated amount of shaded cells. A line of consecutive unshaded cells may not cross more than one bold border.

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

Penpa for example: <https://git.io/JnL18>



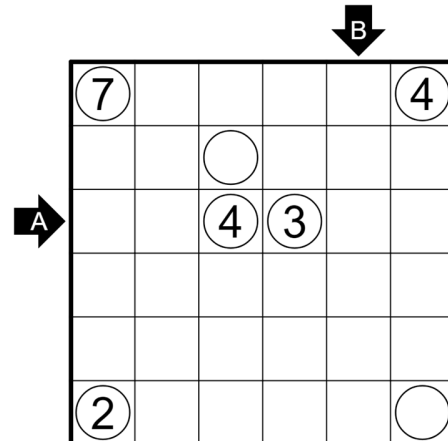
### 10-12 Kurodoko

2 + 4 + 7 points

Shade some cells so that no two shaded cells are orthogonally adjacent and the remaining unshaded cells form one orthogonally connected area. Clues cannot be shaded, and numbers in them represent the total number of unshaded cells that can be seen in a straight line vertically or horizontally, including itself.

[The puzzles in the contest will be of sizes 8x8, 8x8 and 11x11. This example is 6x6.]

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



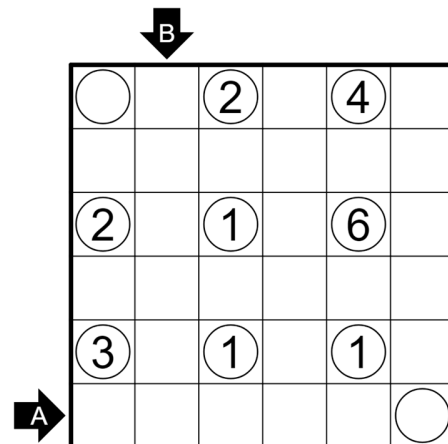
4 + 7 + 8 points

### 13-15 Kurotto

Shade some cells so that each circled number represents the total count of shaded cells in connected groups sharing an edge with that number. Cells with circles cannot be shaded.

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

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



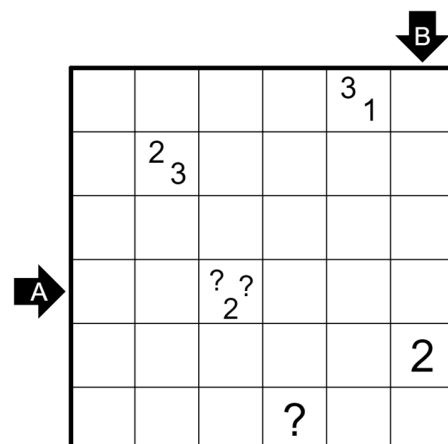
2 + 1 + 4 points

### 16-18 Tapa

Shade some empty cells to create a single connected wall. Numbers in a cell indicate the length of consecutive shaded blocks in the neighboring cells. If there is more than one number in a cell, then there must be at least one unshaded cell between the shaded cell groups. Cells with numbers cannot be shaded, and the shaded cells cannot form a 2x2 square anywhere in the grid. A '?' can stand for any non-zero digit.

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

Penpa for example: <https://git.io/Jnq0s>



## 19-20 Easy As LITS

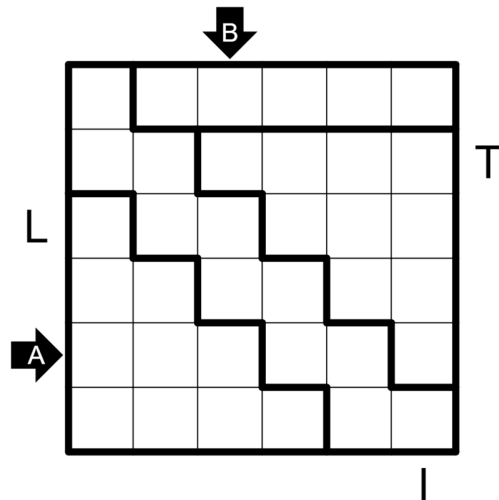
3 + 6 points

Apply LITS rules.

Also, the letters outside the grid indicate the first tetromino encountered in the corresponding direction.

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

Penpa for example: <https://git.io/JnL9u>



## 21-22 Kurotto Connections

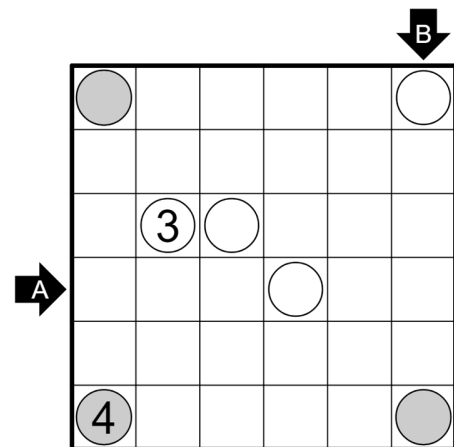
4 + 8 points

Apply Kurotto rules.

Also, ALL circles that share a shaded group with at least one other circle are given in gray.

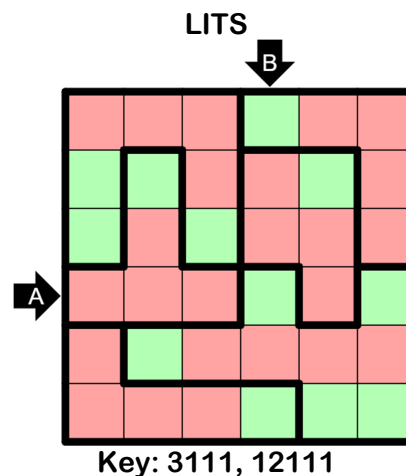
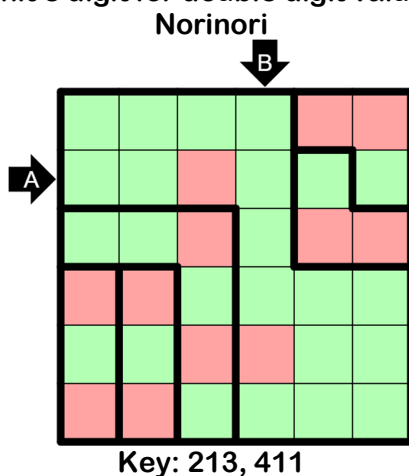
[The puzzles in the contest will be of sizes 8x8 and 10x10. This example is 6x6.]

Penpa for example: <https://git.io/JnL9A>

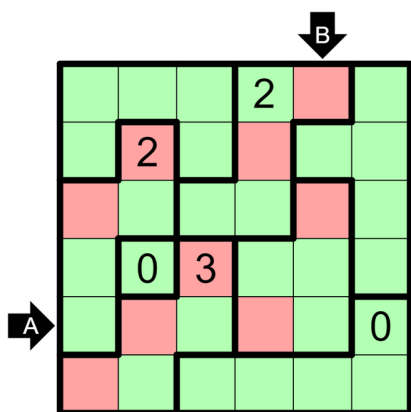


## Solutions

For this round, all answer keys will be the same - 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.

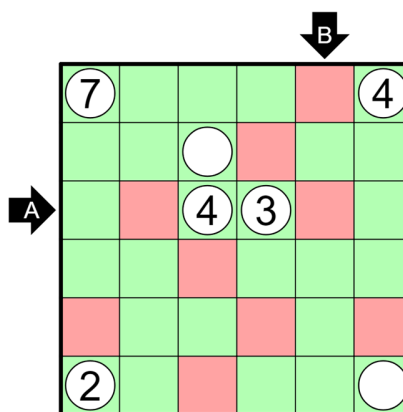


Heyawake



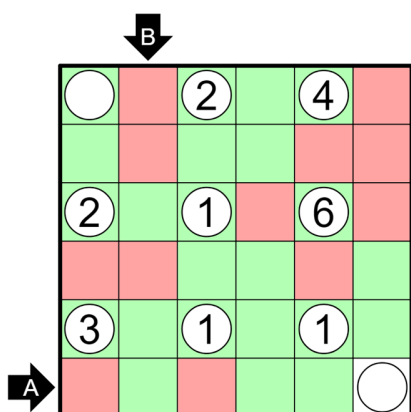
Key: 11112, 1113

Kurodoko



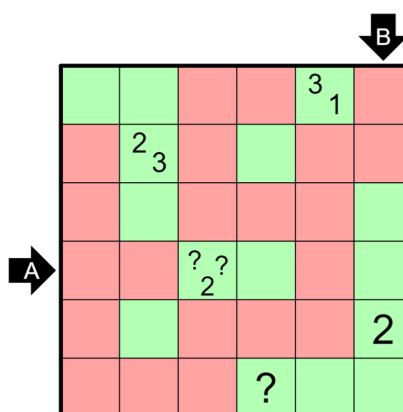
Key: 11211, 1113

Kurotto



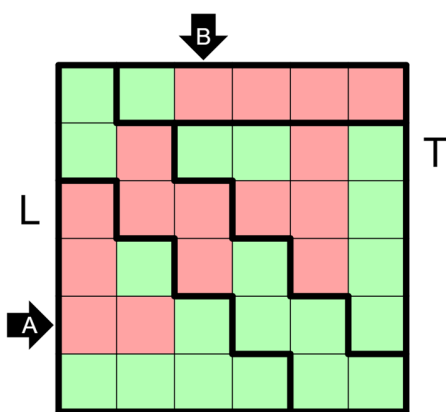
Key: 1113, 2112

Tapa



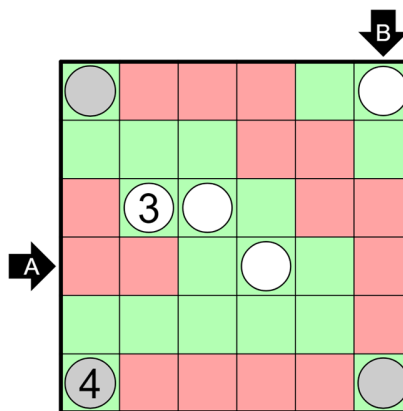
Key: 2211, 24

Easy As LITS



Key: 24, 1122

Kurotto Connections



Key: 231, 231