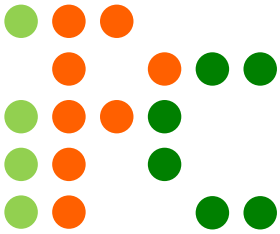
puzzle ramayan

and



Episode – 4
17th – 23rd March 2023

Number Placement & Object Placement
by
Priyam Bhushan and Prasanna Seshadri

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2023. Please check http://logicmastersindia.com/PR/2023pr.asp for details.

Important Links

Submission Page : http://logicmastersindia.com/live?contest=PR202304

Discussion Thread : http://logicmastersindia.com/t/?tid=3139

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* Doppelblock
- 3* Ripple Effect
- 3* Sukoro
- 2* Tripleblock [First Seen]
- 3* Akari
- 3* Tren
- 3* Pentopia
- 2* Akari [Skyscrapers]

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 17th March (but on or before 23rd March), 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

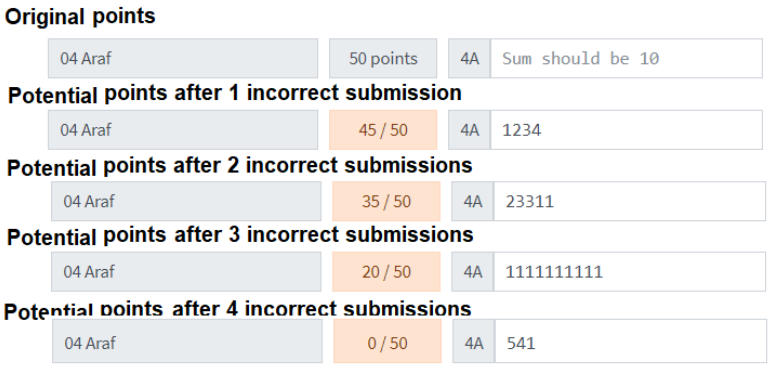
- If multiple columns are marked, enter from left to right for marked columns
- Uppercase or lower case does not matter for answer keys where letters must be entered.
- Characters other than the ones explicitly expected by the answer key will cause the red highlight to appear around the submission box.

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.**

Doppelblock	2, 9, 5
Ripple Effect	4, 6, 10
Sukoro	5, 3, 5
Tripleblock [First Seen]	4, 5
Akari	1, 2, 3
Tren	4, 7, 6
Pentopia	4, 3, 6
Akari [Skyscrapers]	2, 4

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.



Bonus and Ranking

If you submitted all Puzzles correctly, you can have bonus points of 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
- **Botaku** 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 9 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.

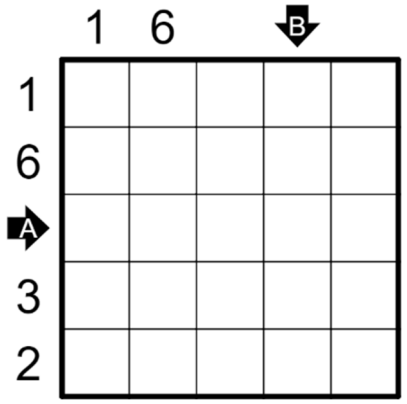
1-3 Doppelblock

2 + 9 + 5 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



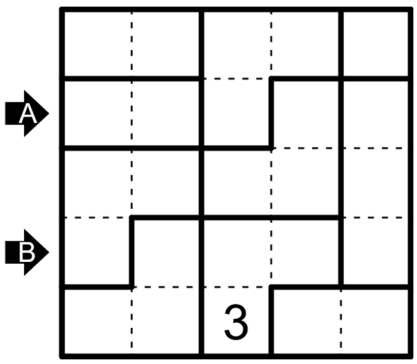
4-6 Ripple Effect

4 + 6 + 10 points

Place a number into each cell so that each region contains the numbers from 1 to N with no repeats, where N is the number of cells in the region. Two instances of the same number in the same row or column must have at least as many cells between them as the value of the number.

[The puzzles in the contest will be of sizes 7x7, 8x8 and 9x9. This example is 5x5.]

Penpa for example: https://tinyurl.com/2mla3a6q



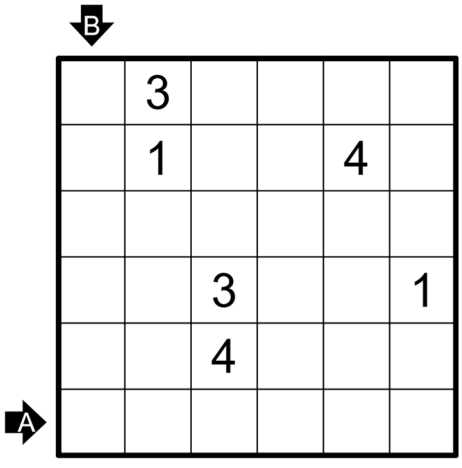
7-9 Sukoro

5 + 3 + 5 points

Place a number into some cells so that all cells with numbers form one orthogonally connected area. Numbers represent how many of the (up to) four orthogonally adjacent cells contain numbers. No two orthogonally adjacent cells may contain the same number.

[The puzzles in the contest will be of sizes 7x7, 8x8 and 10x10. This example is 6x6.]

Penpa for example: https://tinyurl.com/2p2wytav



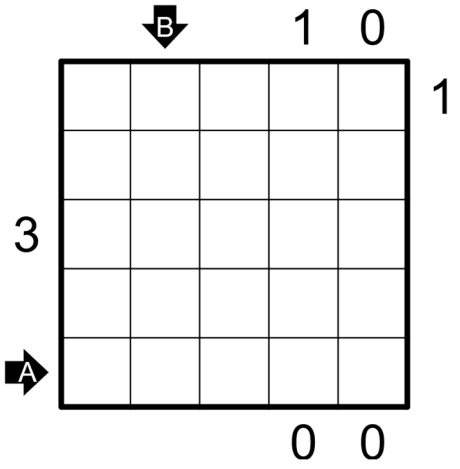
10-11 Tripleblock [First Seen]

4 + 5 points

Place a number from 1 to ***N-3*** 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 ***three*** cells of each row and column. A clue outside the grid indicates the sum of the digits which appear between the ***first*** two shaded cells in the corresponding row or column.

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

Penpa for example: https://tinyurl.com/2khny9az



12-14 Akari

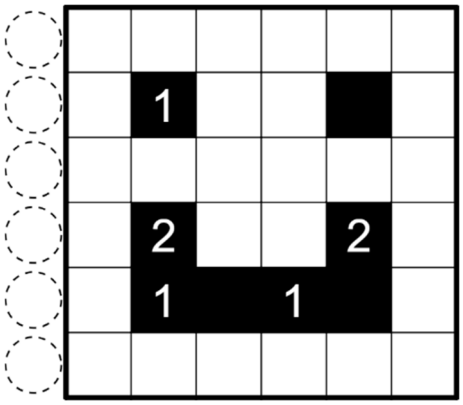
1 + 2 + 3 points

Place lights in some cells so that every cell is illuminated. Lights illuminate the cell they're in as well as all cells seen in a straight line horizontally or vertically, not obstructed by a black cell. Lights may not illuminate each other.

Clues represent the number of lights in the (up to) four cells surrounding the clue.

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

Penpa for example: https://tinyurl.com/2764q7dv



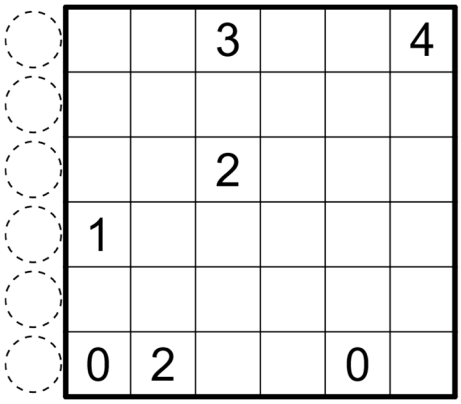
15-17 Tren

4 + 7 + 6 points

Place some blocks in the grid, each of which are either 1x2 or 1x3, which may not overlap each other. Each clue must be used by a block and each block must contain exactly one clue, the value of which represents the number of different locations the block can be moved to by sliding it in the direction of its short end without overlapping another block or going out of the grid. Staying stationary does not count as one of these locations.

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

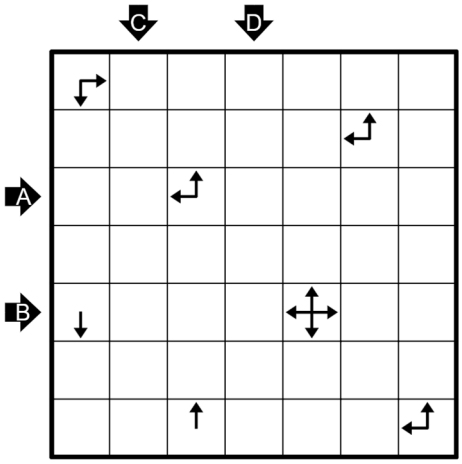
Penpa for example: https://tinyurl.com/2p4lfhqm



18-20 Pentopia

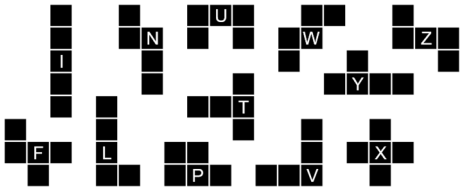
4 + 3 + 6 points

Shade some pentominoes of cells so that no pentominoes touch one another, not even diagonally. No two shaded pentominoes may be the same shape, counting rotations and reflections as the same. Clued cells cannot be shaded, and contain arrows indicating all of the orthogonal directions in which a shaded cell appears closest to the clued cell. At least one shaded cell must appear in the direction of an arrow.



[The puzzles in the contest will be of sizes 8x8, 10x10 and 12x12. This example is 7x7. The pentomino bank, shown below, will be provided near each puzzle to aid in solving and marking answer keys. The bank is not given in the online solving link of the example but in the contest, it will be there next to each puzzle in online mode as well.]

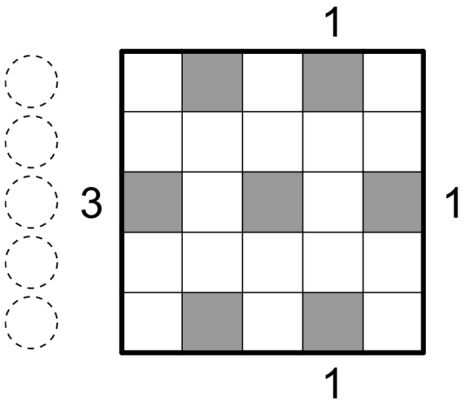
Penpa for example: https://tinyurl.com/2ew73nyz



21-22 Akari [Skyscrapers]

2 + 4 points

Place a number in each shaded cell of the grid in the same row/column as a clue outside the grid. Numbers may repeat in a row/column of shaded cells. Each number represents the height of a building and the clues on the outside indicate how many buildings can be “seen” when looking from that direction. Buildings block the view of equal and smaller buildings.



Then, apply regular Akari rules using the numbers placed in shaded cells.

[The puzzles in the contest will be of sizes 7x7 and 9x9. This example is 5x5.]

Penpa for example: https://tinyurl.com/2p6ovhk7

Solutions

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

The keys are given section by section.

Doppelblock, Sukoro, Tripleblock [First Seen] – For each marked row/column, enter the digits in the direction of the arrow, including given digits. Enter X for empty/shaded cells.

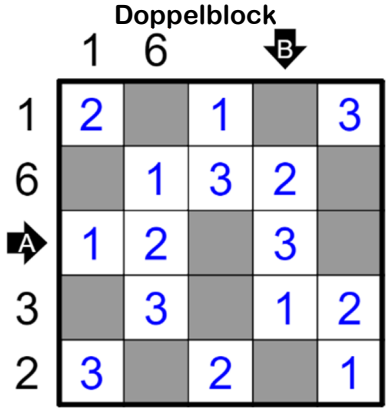
Ripple Effect – For each marked row/column, enter the digits in the direction of the arrow, including given digits.

Akari, Akari [Skyscrapers] – For each row from top to bottom, enter the number of lights.

Tren – For each row from top to bottom, enter the number of blocks occupying at least one cell in that row.

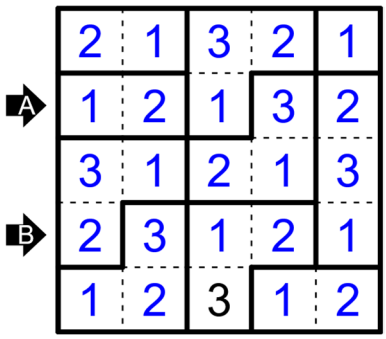
Pentopia – The pentominoes in the bank will be labeled as shown above. For each marked row/column, enter the labeling once for each separate pentomino that appears in at least one cell in that direction. Enter 0 if no Pentomino appears.

Doppelblock



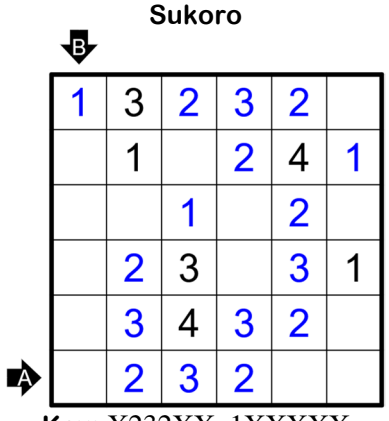
Key: 12X3X, X231X

Ripple Effect



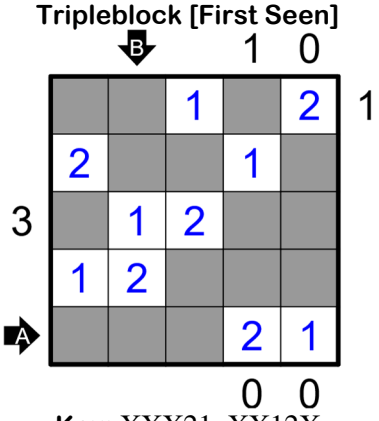
Key: 12132, 23121

Sukoro



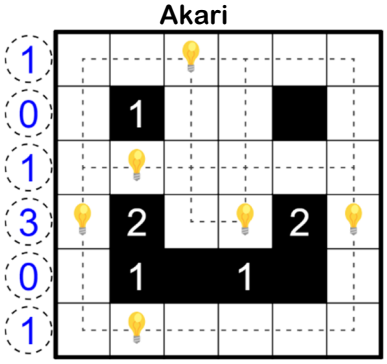
Key: X232XX, 1XXXXX

Tripleblock [First Seen]



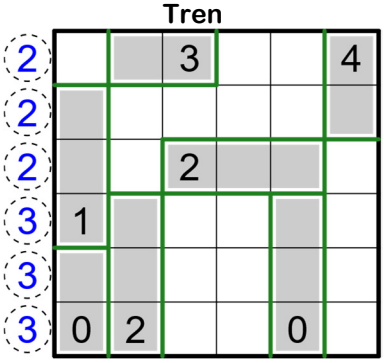
Key: XXX21, XX12X

Akari



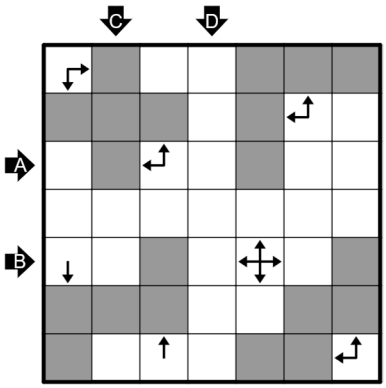
Key: 101301

Tren



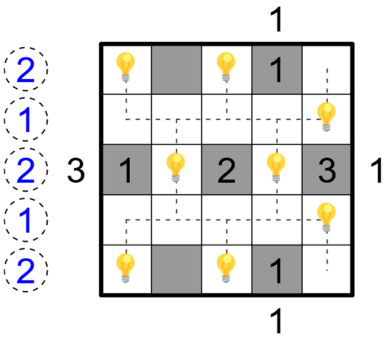
Key: 222333

Pentopia



Key: XV, ZW, XZ, 0

Akari [Skyscrapers]



Key: 21212