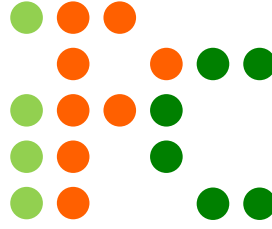# puzzle
Ramayan

and

Episode – 1
22nd – 27th January 2021

Classics
by
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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.**

About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3* Kakuro
- 3* Yajilin
- 3* Hitori
- 3* Shikaku
- 3* Four Winds
- 3* Battleships
- 2* Kakuro-Shikaku
- 2* Yajilin-Battleships

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 22nd January (but on or before 27th January), 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 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.

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.

Kakuro	5, 8, 10
Yajilin	2, 2, 4
Hitori	3, 4, 4
Shikaku	2, 4 ,4
Four Winds	2, 3, 4
Battleships	1, 2, 4
Kakuro-Shikaku	4, 20
Yajilin-Battleships	3, 5

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 |

Potential points after 1 incorrect submission

| 04 Araf | 45 / 50 | 4A | 1234 |

Potential points after 2 incorrect submissions

| 04 Araf | 35 / 50 | 4A | 23311 |

Potential points after 3 incorrect submissions

| 04 Araf | 20 / 50 | 4A | 1111111111 |

Potential points after 4 incorrect submissions

| 04 Araf | 0 / 50 | 4A | 541 |

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 some of the example puzzles too.

Credits
- **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 X 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 to examples are at the end of the booklet.

1-3 Kakuro

5 + 8 + 10 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://git.io/JtJMS
Answer Key: Enter the digits in the marked rows/columns. Ignore black cells.
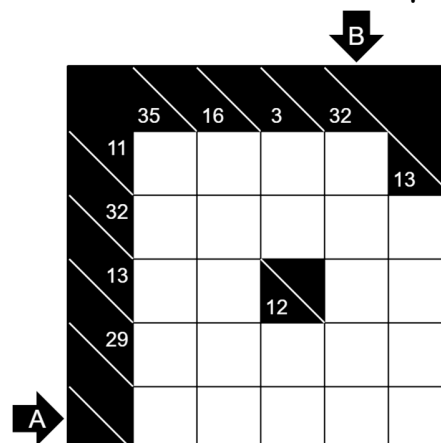
4-6 Yajilin

2 + 2 + 4 points

Shade some white cells and draw a closed loop passing through centres of all remaining white cells horizontally or vertically. Shaded 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.

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

Penpa for example: https://git.io/JtJDn
Answer Key: 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.
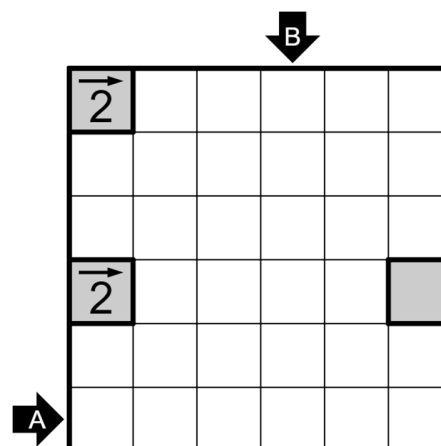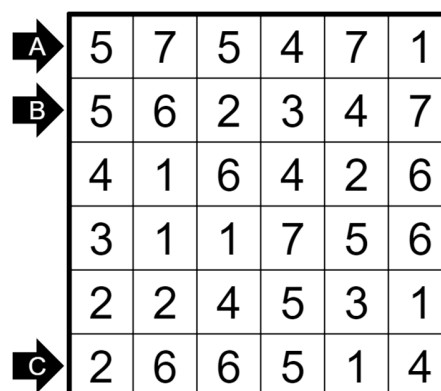
7-9 Hitori

3 + 4 + 4 points

Shade cells such that digits do not repeat in rows and columns. Shaded cells cannot be orthogonally adjacent to each other and all unshaded cells must be orthogonally connected.

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

Penpa for example: https://git.io/Jtkak
Answer Key: Enter the length of continuous areas of shaded and unshaded cells in the marked rows/columns.

| 5	7	5	4	7	1
5	6	2	3	4	7
4	1	6	4	2	6
3	1	1	7	5	6
2	2	4	5	3	1
2	6	6	5	1	4

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10-12 Shikaku

Divide the grid into rectangular regions such that each region has exactly one circle. A number in a circle represents the area of the rectangle it is in.

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

Penpa for example: https://git.io/JtTV7
Answer Key: Enter the length of continuous cells of each separate region in the marked rows/columns.
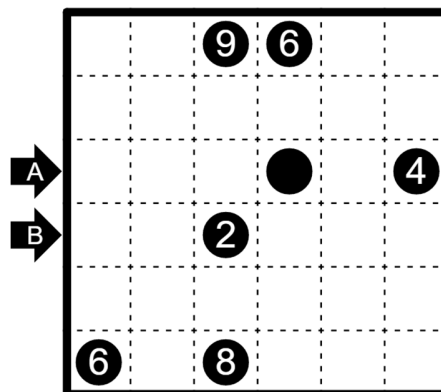
13-15 Four Winds

2 + 3 + 4 points

Draw one or more horizontal or vertical lines from each numbered clue so that all blank cells are connected to exactly one of the numbers. Lines cannot enter other numbered squares or intersect with other lines. Each number represents the total number of blank cells occupied by the lines from that number.

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

Penpa for example: https://git.io/JtTVh
Answer Key: Enter the unit's place of the number the cell is connected to for each cell along the marked rows/columns.
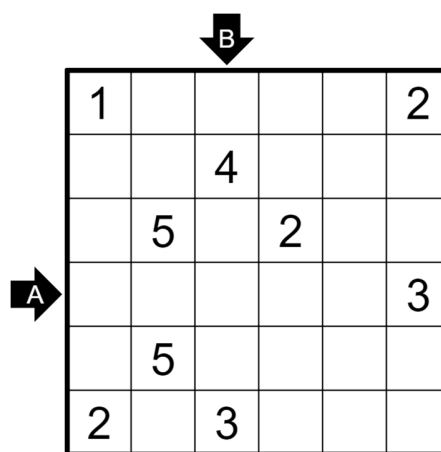
16-18 Battleships

1 + 2 + 4 points

Place the given fleet (the fleet will be larger in the PB) of ships in the grid. Each segment of a ship occupies a single cell. Ships can be rotated. Ships cannot touch each other, not even diagonally. Some cells are known to be water, indicated by waves. Some ship segments may already be given. The numbers outside the grid indicate the number of cells occupied by ship segments in that row or column.

[The puzzles in the contest will be of sizes 7x7, 8x8 and 9x9. This example is 6x6.]

Penpa for example: https://git.io/JtTrI
Answer Key: Enter the column number of the left most ship segment for each row from top to bottom, 0 if there is no ship segment.
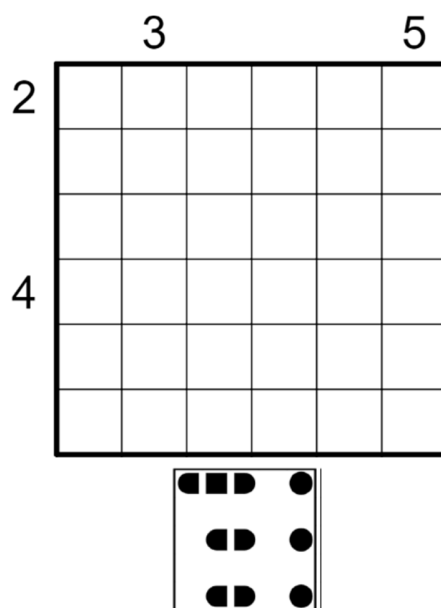
19-20 Kakuro-Shikaku

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.

Additionally, divide the grid into rectangular regions such that each region has exactly one circle. A number in a circle represents the area of the rectangle it is in.

[The puzzles in the contest will be of sizes 7x7 and 9x9. This example is 6x6.]

Penpa for example: https://git.io/Jtka3
Answer Key: Enter the digits in the marked rows/columns. Ignore black cells.
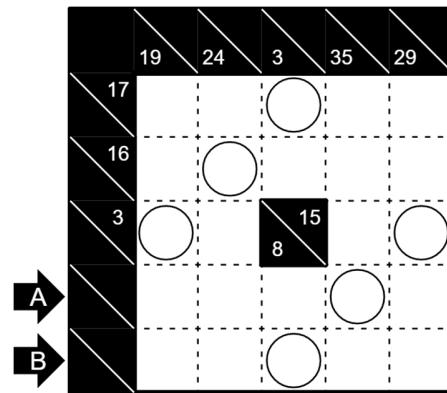
21-22 Yajilin-Battleships

Place the fleet of ships (the fleet will be larger in the PB) in the grid so that no ships touch each other, even diagonally. The grid contains internal clues (a number and an arrow) that show how many different ships are in the indicated direction. All remaining white cells that do not contain a ship segment must be able to form a single loop, as in a Yajilin puzzle.

[The puzzles in the contest will be of sizes 7x7 and 9x9. This example is 6x6.]

Penpa for example: https://git.io/JtTNu
Answer Key: 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.

Solutions

Kakuro

Key: 61372, 29687

Yajilin

Key: 5, 2

Hitori

Key: 1311, 114, 213

Shikaku

Key: 312, 222

Four Winds

Key: 253333, 445353

Battleships

Key: 260162

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Kakuro-Shikaku

Key: 79358, 67589

Yajilin-Battleships

Key: 2, 11