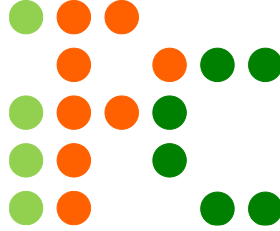# puzzle
ramayan

and

Episode – 3
29th March – 4th April 2024

Evergreens & MII
by
Madhav Sankaranarayanan

Puzzle Ramayan rounds will also serve as qualifiers for Indian Puzzle Championship for year 2024. Please check http://logicmastersindia.com/PR/2023pr.asp **for details.**

About this Episode

This episode has 22 Puzzles from the following puzzle types:

- 3* Shakashaka
- 3* Yajilin
- 3* Easy As ABC
- 2* Easy As ABC [Snake]
- 3* Rassi Silai
- 3* Heterocut
- 3* Regional Loop
- 2* Regional Road

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 29th Mar (but on or before 4th Apr), 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.**

Shakashaka	2, 3, 6
Yajilin	2, 2, 5
Easy As ABC	1, 4, 6
Easy As ABC [Snake]	4, 5
Rassi Silai	2, 3, 6
Heterocut	2, 7, 13
Regional Loop	2, 6, 10
Regional Road	3, 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

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 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 & Wessel Strijkstra** 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.

1-3 Shakashaka

2 + 3 + 6 points

Shade a right triangle in some empty cells, each of which occupies exactly half the cell it's in. Each unshaded area must be rectangular in shape. A number in a cell represents how many of the (up to) four cells orthogonally adjacent to the clue contain triangles.

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

Penpa for example: https://tinyurl.com/2yalyv8w

4-6 Yajilin

2 + 2 + 5 points
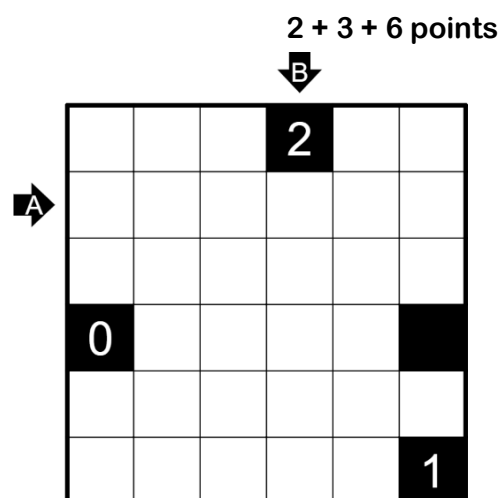
Shade some cells and then draw a single closed loop (without intersections or crossings) through all remaining white cells. Shaded cells cannot share an edge with each other. Some cells are outlined and in gray and cannot be part of the loop, but aren't counted as 'shaded' either. Numbered arrows in such cells indicate the total number of shaded cells that exist in that direction in the grid.

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

Penpa for example: https://tinyurl.com/2gx8x3k7

7-9 Easy As ABC

1 + 4 + 6 points
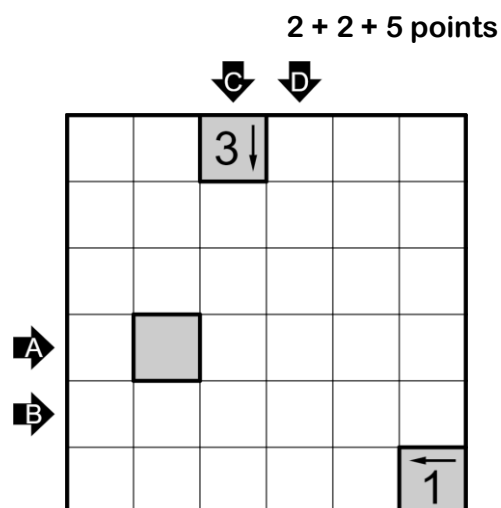
Place letters from the range given outside the grid into some cells so that each row and column contains each letter once. A clue outside the grid represents the first letter seen in the corresponding row or column from that direction.

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

Penpa for example: https://tinyurl.com/yc8tj4qc
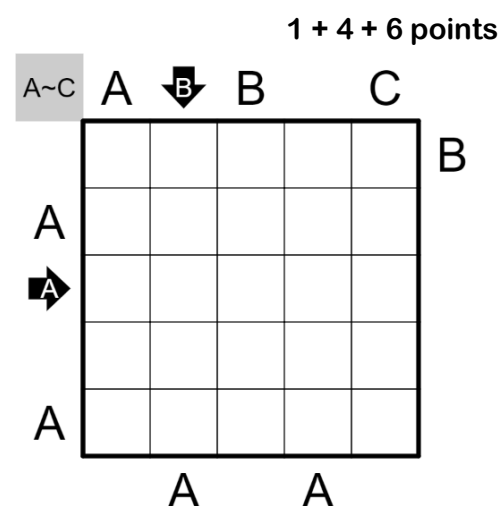
## 10-11 Easy As ABC [Snake]

4 + 6 points

Follow Easy As ABC rules.

Additionally, shade some cells to form a non-intersecting path of 1-cell width which does not touch itself, not even diagonally. A circle must lie on an end of the path. The path cannot pass through cells with letters. A '-' outside the grid means that the snake is seen before any letters.

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

Penpa for example: https://tinyurl.com/283u3xm6

12-14 Rassi Silai

2 + 3 + 6 points
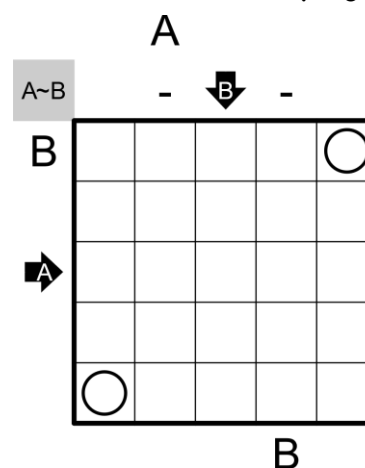
Within each region, draw a non-intersecting path through the centers of all white cells. Paths may not cross over bold borders. No two cells in the grid containing endpoints of paths may be touching one another, not even diagonally.

[The puzzles in the contest will be of sizes 8x8, 10x10 and 12x12. This example is 6x6.]

Penpa for example: https://tinyurl.com/2xnh6k5y

15-17 Heterocut

2 + 7 + 13 points
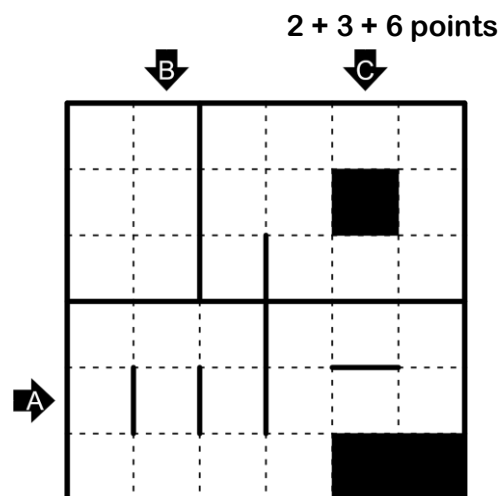
Divide the grid into regions of orthogonally connected cells, each containing a number of cells within the range given outside the grid.

No two regions may be the same size and shape, counting rotations and reflections as the same.

Borders must separate two different regions, and an arrow on a border always points toward the larger of the two regions.

Black cells are not part of any region.

[The puzzles in the contest will be of sizes 6x6, 7x7 and 9x9. This example is 5x5.]

**Penpa for example: https://tinyurl.com/254s3dsd**
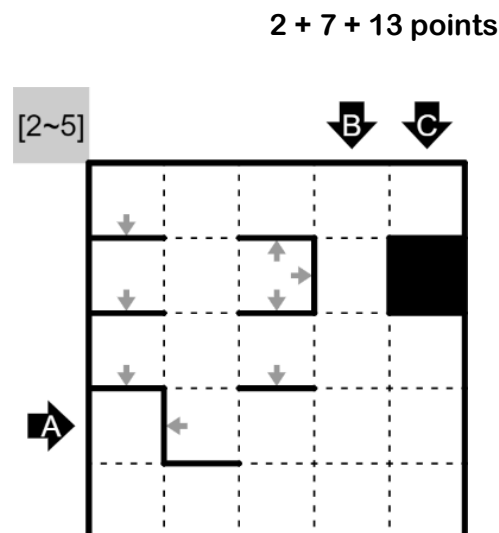
18-20 Regional Loop

2 + 6 + 10 points

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.]
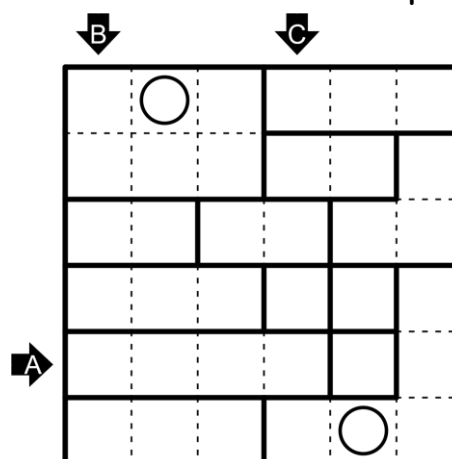
Penpa for example: https://tinyurl.com/2cenksmh
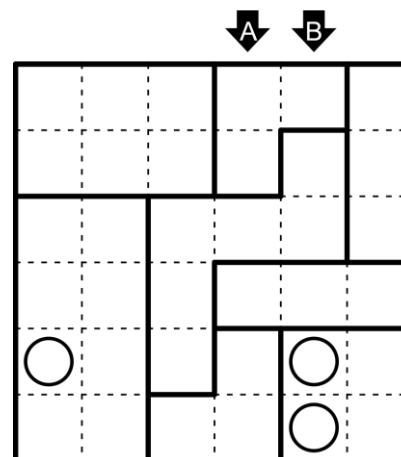
21-22 Regional Road

3 + 6 points

Follow Regional Loop rules.

Orthogonally adjacent cells across a region border may not both be unused.

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

Penpa for example: https://tinyurl.com/25lu9nd3

Solutions

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

The keys are given section by section.

Shakashaka – For each marked row/column, enter the contents. Use 'N' for a triangle that divides the cell from the top left to the bottom right, 'Z' for a triangle that divides the cell from the top right to the bottom left, 'B' for black cells, 'X' for empty cells.

Yajilin, Rassi Silai, Regional Loop, Regional Road – For each marked row/column, enter the lengths of separate loop segments in the direction of the arrow. Use unit's digit for double digit values. Enter 0 if there are no segments.

Easy As ABC , Easy As ABC [Snake] – For each marked row/column, enter the alphabets in the direction of the arrow. Enter X for empty cells. Only enter the alphabets within the grid, not outside clues. Enter S for cells containing the snake.
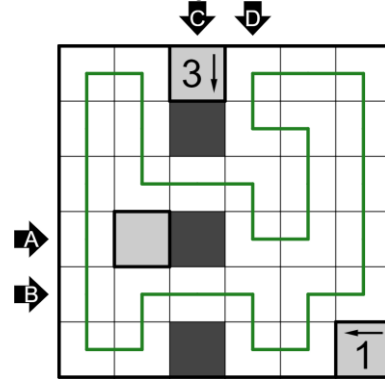
Heterocut - For each marked row/column, enter the number of consecutive cells belonging to separate regions in the direction of the arrow. Ignore black cells.
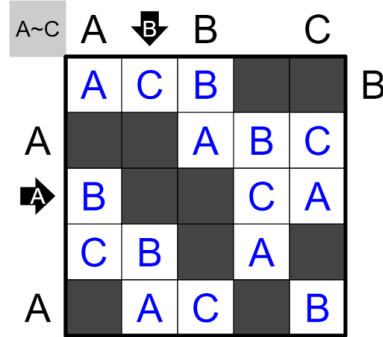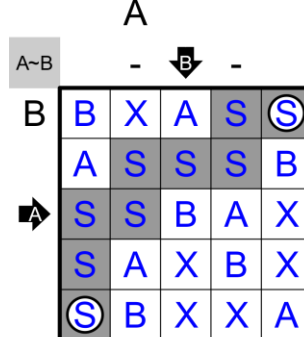
Shakashaka
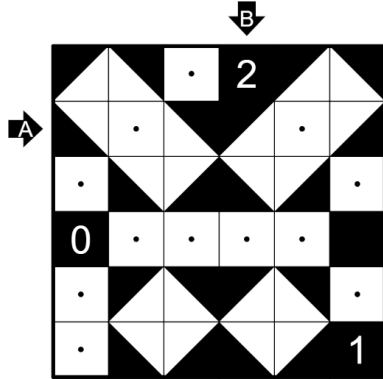
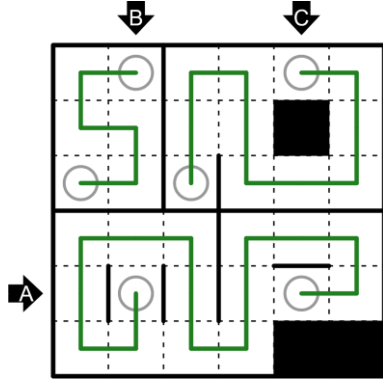**Key:** NXNZXZ, BZNXZN

Yajilin

Key: 1, 21, 0, 111

Easy As ABC

A~C	A	B	C
	A	C	B
A			A
A	B		
	C	B	
A		A	C

Key: BXXCA, CXXBA

Easy As ABC [Snake]

Key: SSBAX, ASBXX

Rassi Silai

Key: 1, 11, 0

Heterocut
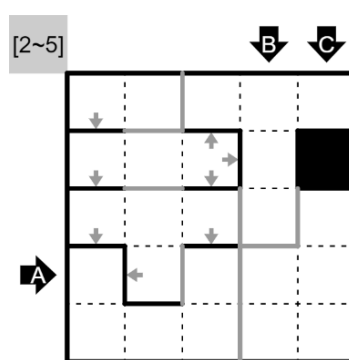
Key: 1112, 32, 13

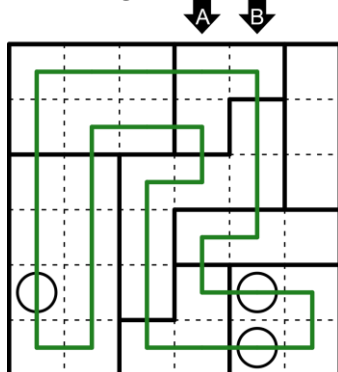## Regional Loop

Key: 11, 3

Regional Road

Key: 4, 21, 11