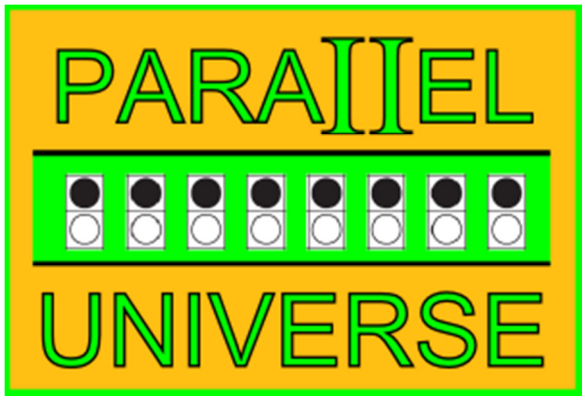


Hello, dear solvers!

After my Sudoku Contest, Parallel Universe, caught the interest of another Universe's Prasanna, the obvious next step was to see what else would be fun to combine from their Universe. Their Prasanna was kind enough to show me some of their Puzzle types, and I realized that, while their Sudoku types are of similar names to ours but slightly different rules, a lot of the Puzzle types have one rule that's the opposite of the rule we normally follow! So I decided to pick these puzzles, and tried to write based on their rule sets. Obviously, I wanted to set them together with our puzzle types too, and therefore, each puzzle below will have the "base rules" which are similar for both Universes, and then the big difference dividing the two Puzzles in each type. Welcome to Parallel Universe II – Inversion Invasion!

Note :

- The duration of the test is 121 minutes.
- The distribution of points is based on the times needed by test solvers. Therefore, you might experience differences due to your own personal skills and preferences.
- This test uses **Instant Grading** where a solver can submit any individual puzzle once finished and receive confirmation on whether it's correct or not.
- The first, second, third and fourth incorrect submission reduces the potential score to 90%, 70%, 40% and 0% respectively (and remains at 0% after this).
- If all solutions are submitted correctly, then the final score is calculated by the formula: Final Score = Total Points / Used Time * 121 minutes.
- The Puzzle Booklet will contain 9 pages.

Thanks to Tiit Vunk and Vladimir Portugalov for testing and valuable feedback. Also thanks to Yuhei Kusei for providing suitable translations for some of their Universe's puzzle types. The other Prasanna told me to find it out for myself.

Good Luck and Enjoy the contest!

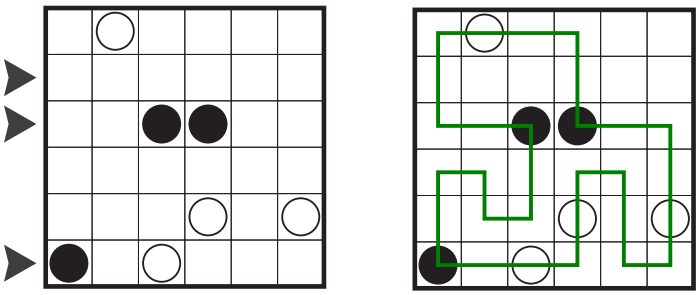
Points Table	
Masyu	40
Syuma	55
Tapa-Like Loop	55
Pata-Like Loop	35
LITS	65
STILO	70
Snake Egg	65
Similar Eggs	65
Star Battle	40
Star Wars	65
Heyawake	100
Akichiwake	110
Fillomino	45
Fill-Other-Mino	110
Myopic Pentominoes	50
Hypermetropic Pentominoes	60
Kakuro	50
Kakuro de Ni-keta	130
Total	1210

Base Rules

Draw a single closed loop connecting the centers of cells horizontally and vertically. The loop doesn't touch or cross itself anywhere. The loop runs through all black and white circles.

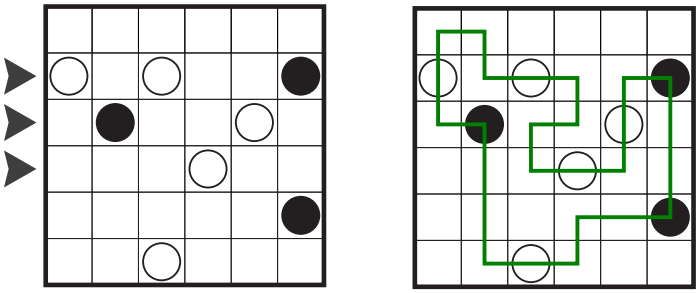
Masyu

The loop turns in every black circle and goes straight through both adjacent squares. The loop goes straight through every white circle and turns in at least one adjacent square.



Syuma

The loop turns in every black circle and goes straight through in at least one adjacent square. The loop goes straight through every white circle and turns in both adjacent squares.



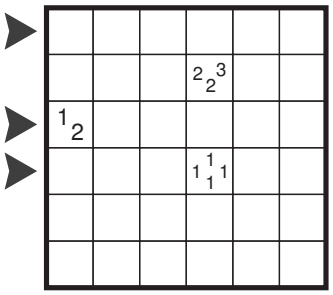
Answer Key for both – Enter the maximum length of loop segment in the marked rows. The answer for the examples would be 023 for the Masyu and 212 for the Syuma

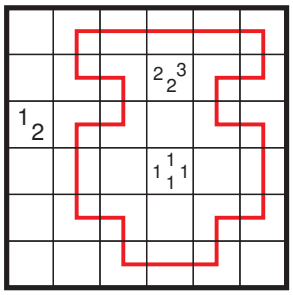
Base Rules

Draw a single non-intersecting closed loop passing through the centers of cells traveling horizontally and vertically. There is no 2×2 rule of Tapa in this puzzle.

Tapa-Like Loop

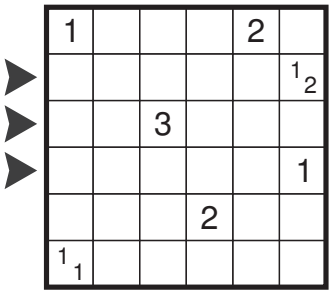
Clues represent the number of neighboring cells visited by a continuous loop segment; if there is more than one number in a cell, each number should be represented with a separate loop segment.

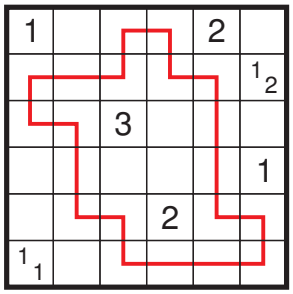




Pata-Like Loop

Clues represent the number of neighboring cells not visited by the loop; if there is more than one number in a cell, each number should be represented with a separate empty space, separated by the loop. There is no restriction on number of loop segments around a clue.





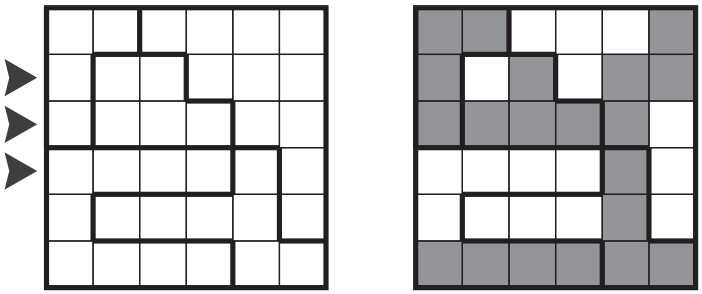
Answer Key for both – Enter the maximum length of loop segment in the marked rows. The answer for the examples would be 410 for the Tapa-Like Loop and 210 for the Pata-Like Loop

Base Rules

All shaded cells are connected with each other. No 2×2 group of cells can be entirely shaded. When two "shapes" (tetrominoes formed by a group of 4 continuous cells) in adjacent regions share an edge, they must not be of the same type, regardless of rotations or reflections.

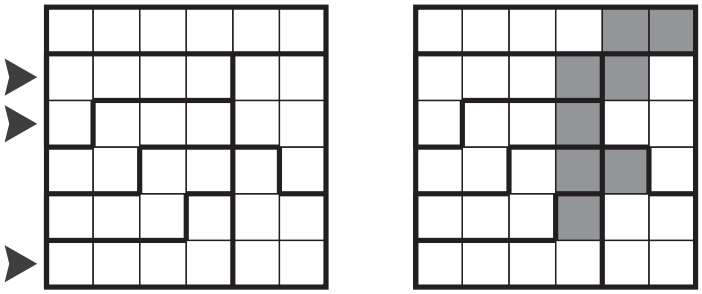
LITS

The shaded cells must form the "shapes" (unshaded cells can too, but are irrelevant to the ruleset) in each region. Therefore, each region must contain exactly 4 continuous shaded cells, in the shape of L, I, T or S (because of the 2x2 rule, O is not possible).



STILO

The unshaded cells must form the "shapes" (shaded cells can too, but are irrelevant to the ruleset) in each region. Therefore, each region must contain exactly 4 continuous unshaded cells, in the shape of S, T, I, L or O.



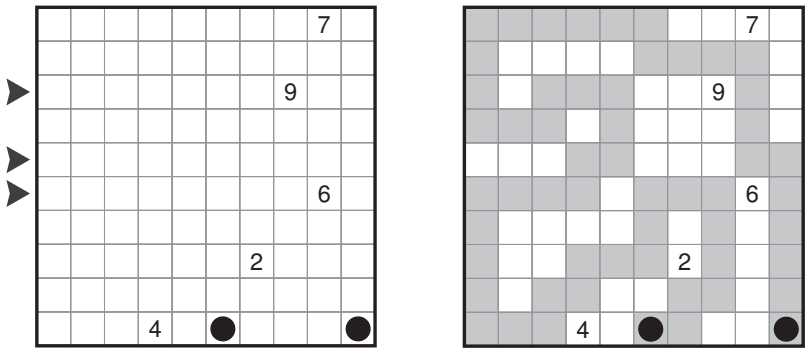
Answer Key for both – Enter the longest shaded group in the marked rows. The answer for the examples would be 251 for the LITS and 210 for the STILO

Base Rules

Locate a snake, passing through empty cells and black circles. The snake cannot touch itself orthogonally, but can touch itself diagonally. The remaining cells form islands.

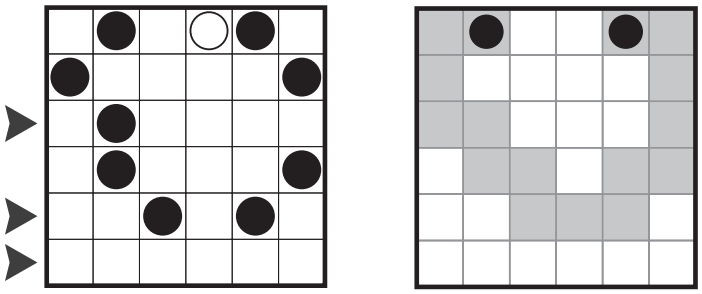
Snake Egg

There are exactly 2 black circles, which are the head and tail. The islands must all be of different sizes, ranging from 1-12 (1-9 in the example). The numbers indicate size of the island they're a part of.



Similar Eggs

There are multiple black circles, any two of which will be the head and tail (it is up to the solver to determine). The snake must pass through all other black circles too. The islands must all be of the same size, and it is up to the solver to determine the size. Each island can contain 0 or 1 white circle, and all white circles must be part of islands.



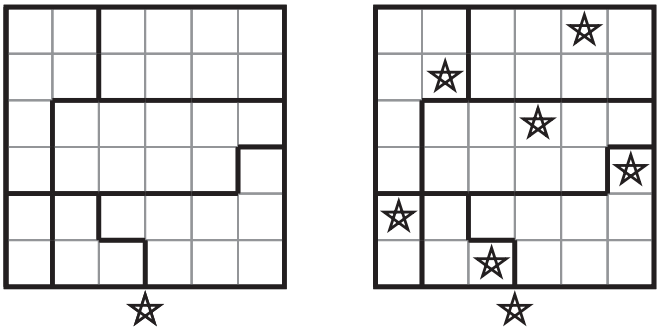
Answer Key for both – Enter the total number of cells visited by the snake in the marked rows. The answer for the examples would be 5, 4, 8 for Snake Egg and 3, 3, 0 for Similar Eggs. Enter the digit in the units place in case of double digit numbers.(e.g. "1" in case of "11")

Base Rules

Place 2 (1 in the example) stars in every row and column. Stars cannot touch each other, even diagonally.

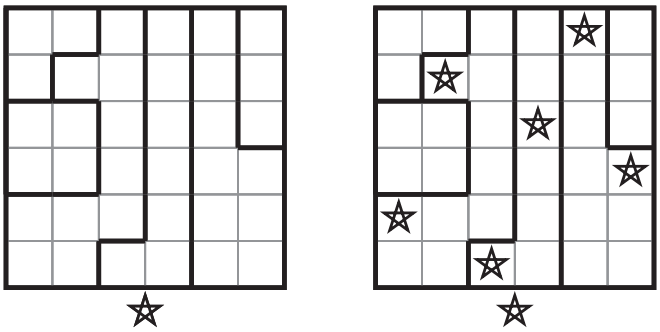
Star Battle

There are 2 (1 in the example) stars in each thickly outlined region.



Star Wars

There can be any number of stars **except 2** (except 1 in the example) in each thickly outlined region, including 0.



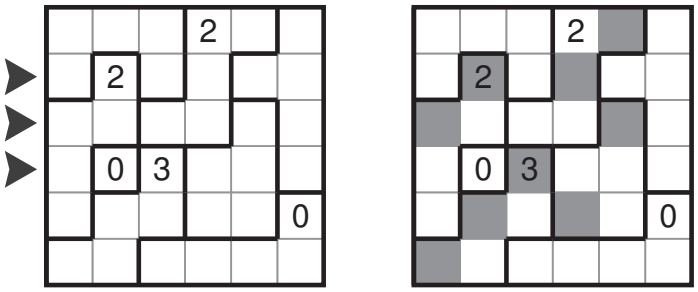
Answer Key for both – In each row, enter the column number of the first star from the left. The answers for the examples would be 524613 for Star Battle and 524613 for Star Wars

Base Rules

Shade some cells. Shaded cells are not allowed to touch each other orthogonally. The remaining white area has to be connected. The white area can't span over two consecutive boundaries in a single row or column.

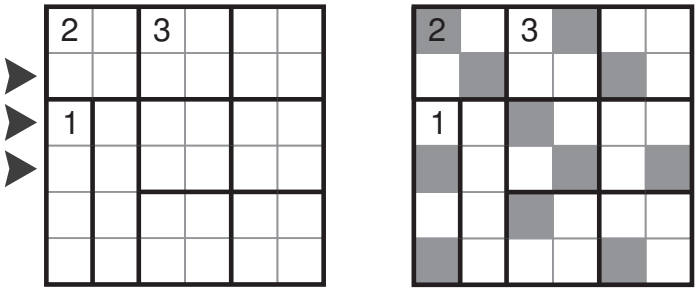
Heyawake

The numbers indicate number of shaded cells in a region.



Akichiwake

The numbers indicate the maximum possible continuous white area within a region. There need not be an area equal to this value, the only restriction is there can be no area larger than the value connected within the region.



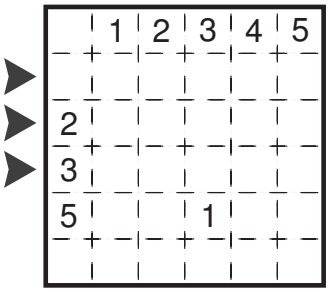
Answer Key for both – In the marked rows, enter the number of shaded cells. The answers for the examples would be 221 for Heyawake and 213 for Akichiwake

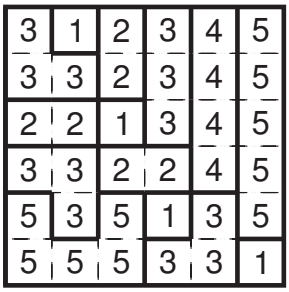
Base Rules

Divide the grid along the dotted lines into regions called polyominoes so that no two polyominoes with the same area share an edge.

Fillomino

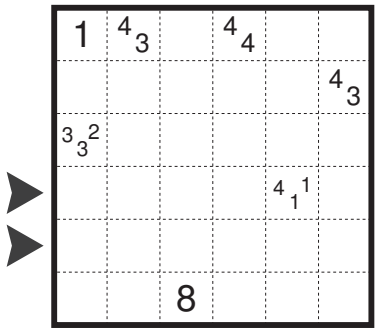
Each number must represent the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers.

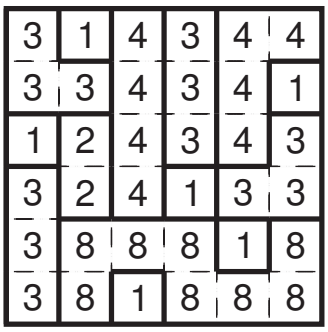




Fill-Other-Mino

The numbers in a cell represent the sizes of all different polyominoes orthogonally touching that cell (it can be touched multiple times by a same polyomino, but will still count just once in the clue). The clue itself can belong to a polyomino of any size as long as it follows base rules. A polyomino may contain 0 or 1 clue cell.

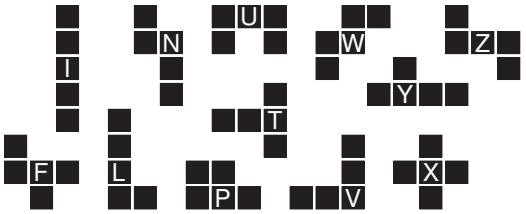




Answer Key for both – In marked rows, enter the number of cells occupied by each separate region that's a part of that row (if a region appears in the same row in different instances, enter the number each instance). The answers for the examples would be 21111, 21111, 2211 for Fillomino and 11112, 1311 for Fill-Other-Mino

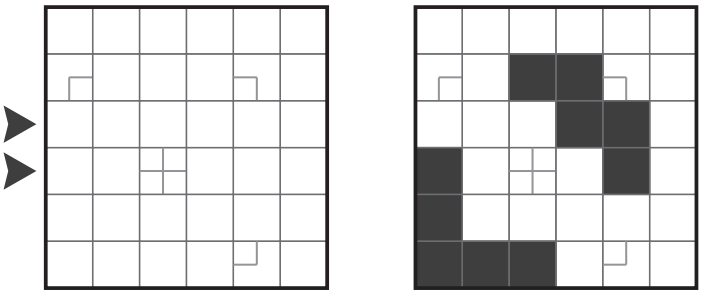
Base Rules

Place pentominoes (not necessarily all 12, the listing is for letter reference) in the grid without repeating any shape. Rotations and reflections are considered the same shape. The pentominoes are not allowed to touch, not even at the corners.



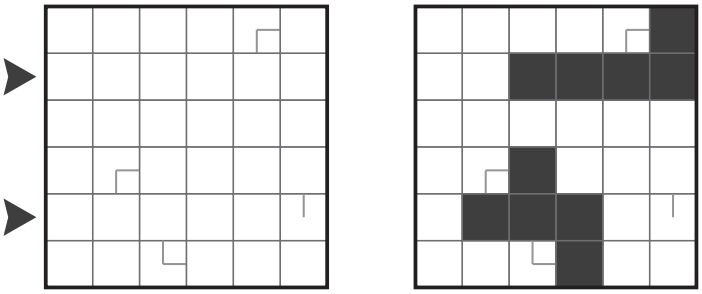
Myopic Pentominoes

The lines in the grid indicate the direction(s) in which the pentominoes is/are closest when looking from that square.



Hypermetropic Pentominoes

The lines in the grid indicate the direction(s) in which the pentominoes is/are furthest away when looking from that square (which could be adjacent cells too). The other directions will either have pentominoes that are closer or no pentominoes at all.



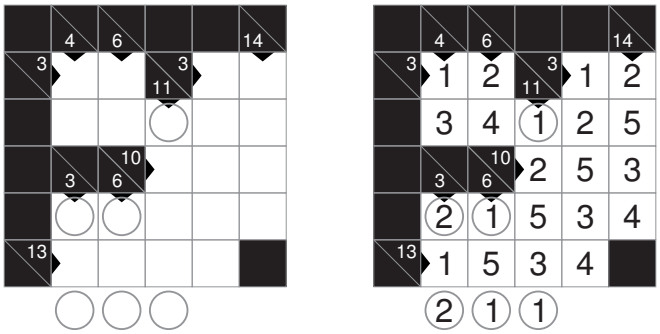
Answer Key for both – In marked rows, enter the letter of the first 2 shapes appearing, in order of appearance from left to right. Use '-' to fill in inadequate keys. The answers for the examples would be W-, VW for Myopic Pentominoes and L-, F- for Hypermetropic Pentominoes

Base Rules

Place the digits 1-9 (1-5 in the examples) in the white cells. The clues give sums for the direction of the arrow, either across or down. Digits cannot repeat within a row/column of continuous white cells (uninterrupted by a black cell/grid edge).

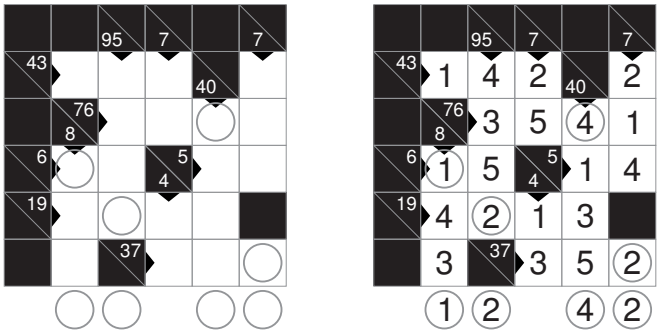
Kakuro

The sums count each cell as an individual digit.



Kakuro de Ni-keta

For any area with more than 2 cells, some cells can be grouped together as 2-digit numbers while reading the sum. The 2-digit numbers must be read across or down only (e.g. 81 cannot count as 18 for its sum).



Answer Key for both – There are some circles marked in the grid. Enter the number appearing in the circles column-wise from left to right. The answers for the examples would be 211 for Kakuro and 1242 for Kakuro de Ni-keta