SWISS
LOGIC PUZZLE
FEDERATION

# INSTRUCTION BOOKLET

Swiss Qualification Tournament
for the
31th World Puzzle Championship

April 5 – 8, 2024

WORLD PUZZLE FEDERATION

# Tournament Details

The tournament will take place on the website of Logic Masters:
https://logic-masters.de/Wettbewerbe/CE/wettbewerb.php?id=246

The tournament will be open from **Friday, April 5, 12:00 CEST** to **Monday, April 8, 23:59 CEST**.

To start the tournament, follow the indications on the website. There are two PDF documents involved:

- one is the instruction booklet that you are reading now which contains the rules and examples of the different variants of puzzles appearing in the tournament.
- the second document is an encrypted PDF file of 14 pages containing the actual tournament puzzles. This document will be available for download just before the tournament. Starting the tournament will give the player the password to decrypt the PDF file.

Answer codes:

- Once you start the tournament, you will be given **120 minutes** to submit the answer codes. It is therefore recommended to start before Monday April 8 at 21:59 CEST to make it before the end of the tournament time window.
- Answer codes differ between the puzzle types. They are explained next to each puzzle type. It is recommended to study the answer codes carefully before starting the competition.
- If several rows or columns of a puzzle are marked for the answer code, first enter the answer codes of the rows from top to bottom, followed by the answer codes of the columns from left to right.
- The answer codes can be changed and/or entered multiple times without penalty during these 120 minutes.

For each correctly solved puzzle you will be awarded the marked points. Wrong answers will not get any minus points.
The answers are only stored when clicking the submit button. They are **not** submitted automatically when the time is over. You can submit as often as wished in the time limit.

The tournament is destined to evaluate the admission of Swiss players to the World Puzzle Championship 2024. Players from all nations are kindly welcome to compete, too.

The puzzles in this tournament have been created by Roger Kohler. For **questions**, feel free to ask on the Discord server of the World Puzzle Federation (https://discord.gg/NM9xn6Rm9k, under events) or contact Roger Kohler directly (email: ropeko@yahoo.de, phone: +41798134273).

International test solvers helped to make sure the puzzles are valid and to synthesize an adapted number of points per puzzle. The number of points gives an indication of the difficulty of the puzzle.

Special thanks to the website Logic-Masters.de by making the online qualification possible, and to the test solvers Denis Auroux, Hatice Esra Yaka, Silke Berendes, Christian König, Anne Limoges and Tiit Vunk.

# List of Puzzles

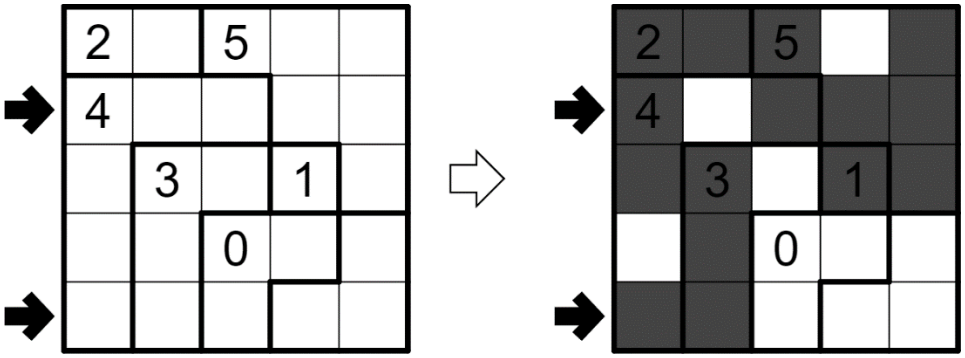
| Nr | Puzzle type | Points |
|---|---|---|
| 1 | Aqre | 36 |
| 2 | Aqre | 82 |
| 3 | Battleships | 27 |
| 4 | Battleships | 34 |
| 5 | Burokku | 19 |
| 6 | Burokku | 82 |
| 7 | Cross the Streams | 43 |
| 8 | Cross the Streams | 68 |
| 9 | Doppelblock | 22 |
| 10 | Doppelblock | 42 |
| 11 | Hashi | 36 |
| 12 | Hashi | 56 |
| 13 | Icebarn | 9 |
| 14 | Icebarn | 41 |
| 15 | LITS | 27 |
| 16 | LITS | 126 |
| 17 | Magnets | 36 |
| 18 | Magnets | 82 |
| 19 | Masyu | 10 |
| 20 | Masyu | 19 |
| 21 | Myopia | 15 |
| 22 | Myopia | 51 |
| 23 | Nanro Signpost | 25 |
| 24 | Nanro Signpost | 25 |
| 25 | Outside Sums | 14 |
| 26 | Outside Sums | 60 |
| 27 | Tic-Tac-Logic | 18 |
| 28 | Tic-Tac-Logic | 95 |
| | **Total** | **1200** |

# 1-2 Aqre – 36+82 Points

Shade some cells so that all shaded cells form one orthogonally connected area. Regions with numbers must contain the indicated amount of shaded cells. There may not exist a run of more than three consecutive shaded or unshaded cells horizontally or vertically anywhere in the grid.

**Answer:** For each designated row/column, enter the length in cells of each of the shaded segments, from left to right (or top to bottom).

**Example:**



Answer: 13 2

# 3-4 Battleships – 27+34 Points

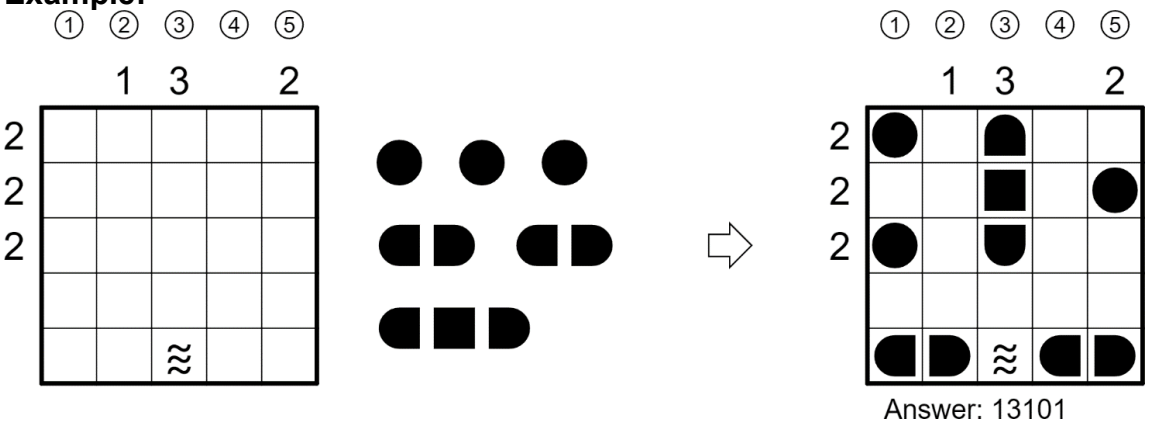
Locate the indicated fleet in the grid. Each piece of a ship occupies a single cell. A cell that does not contain a ship piece is considered "sea". Ships can be rotated. Ships do not touch each other, not even diagonally (that is, if two ship pieces are in adjacent cells, they must be part of the same ship). The contents of some cells are given for you.

Each number to the left and top of the grid reveals the number of ship pieces that must be located in that row or column (including any that might be given for you).

*The circled numbers on the far top of the diagram are for Answer purposes only.*

**Answer:** For each row from top to bottom, enter the number of the first column from the left where a ship piece appears (the circled number on the far top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first ship piece appears in column 10. If the row is empty, enter '0'.

**Example:**



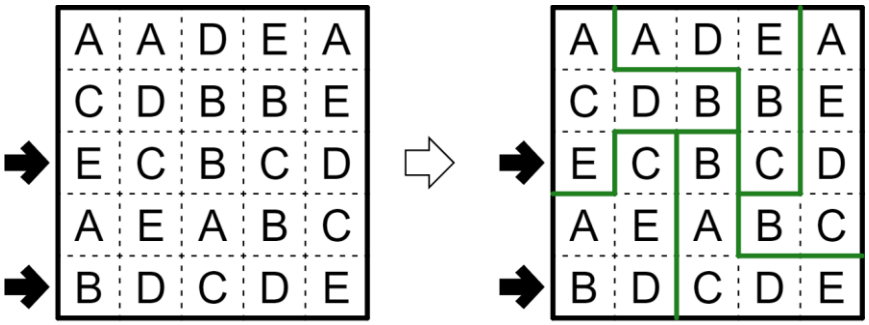
Answer: 13101

# 5-6 Burokku – 19+82 Points

Divide the grid along the grid lines in non-overlapping regions containing 5 cells each. A region must not contain two cells with the same letter.

**Answer:** For each designated row/column, enter the length in cells of each of the region segments from left to right (or top to bottom).

**Example:**




Answer: 11111 23

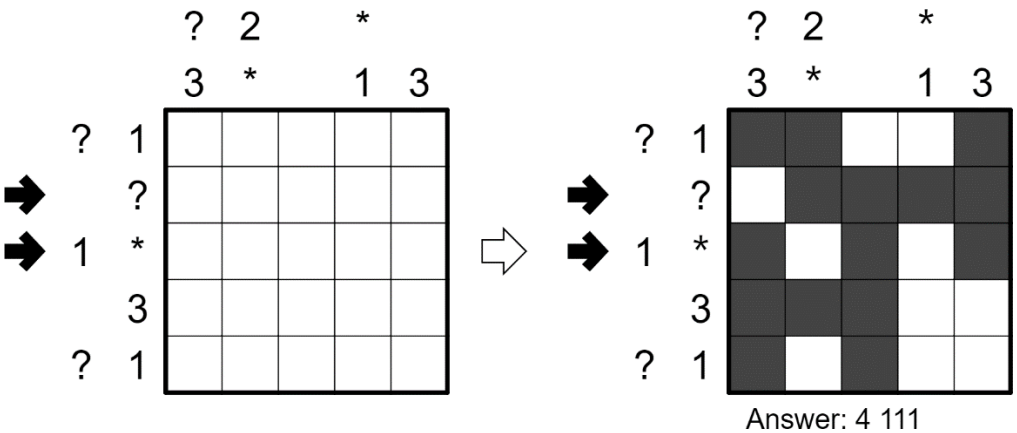
# 7-8 Cross the Streams – 43+68 Points

Shade some empty cells black. All black cells connect along edges to create a single connected region. (It is permissible for the region to touch itself at a corner, but touching at a corner does not connect the region.) No 2×2 group of squares can be entirely shaded black.

The numbers to the left of (and above) the main grid represent the lengths of contiguous blackened cell blocks in the corresponding row (or column). The lengths are given in order from left to right (or top to bottom), and cell blocks must contain at least one unblackened cell between them. Some numbers have been replaced with the "?" (question mark) symbol, one symbol per number. Then, groups of "?" symbols have been replaced with the "*" (asterisk) symbol; each "*" might represent multiple "?" symbols, one "?" symbol, or no "?" symbols at all.

**Answer:** For each designated row/column, enter the length in cells of each of the shaded segments, from left to right (or top to bottom). Use only the last digit for two digit numbers; e.g., use '0' for a segment of length 10. If there are no shaded cells in the row/column, enter a single digit '0'.

**Example:**



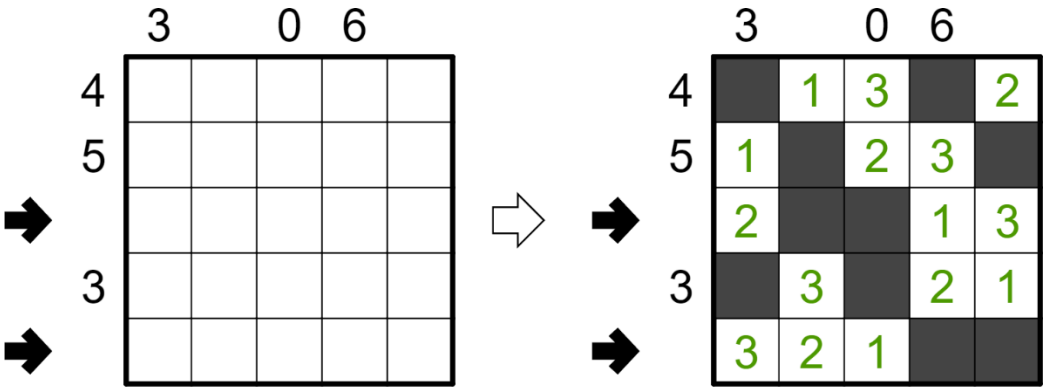

Answer: 4 111

# 9-10 Doppelblock – 22+42 Points

Place either a block or a number from 1 to X (integers only) into each cell so that each number appears exactly once in each row and each column. (X is two fewer than the number of cells in each row.) Each row and each column will therefore have exactly two cells with blocks in them. The numbers outside the grid indicate the sum of the numbers between the two blocks in that row or column. Some cells may already be filled in for you.

**Answer:** For each designated row/column, enter its contents from left to right (or top to bottom). Use 'X' to denote a block. Use only the last digit for two-digit numbers; e.g., use '0' for the number 10. Do not include any given numbers outside the grid.

**Example:**



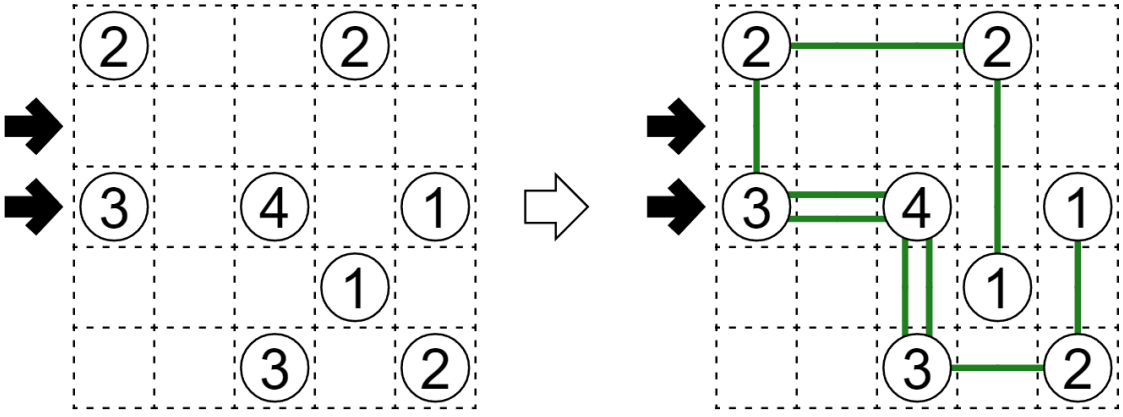

Answer: 2XX13 321XX

# 11-12 Hashi – 36+56 Points

Draw some horizontal and vertical lines so that all the circles are connected (directly or through connections through other circles). No two circles may be directly connected by more than two lines. Lines may not cross other lines. If a circle is numbered, then that number represents the number of lines that are connected to that circle.

**Answer:** For each designated row/column, enter the total number of horizontal and vertical bridges. Use only the last digit for two-digit numbers; e.g., use '0' for 10 bridges. If there are no bridges in the row/column, enter a single digit '0'.

**Example:**



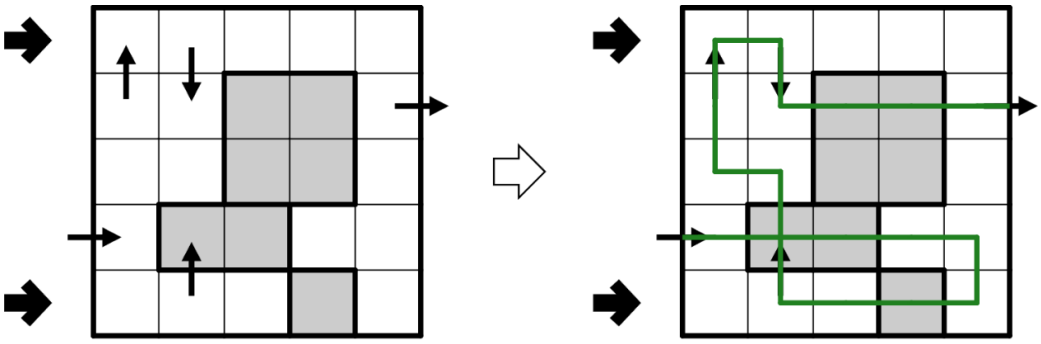
Answer: 2 3

# 13-14 Icebarn – 9+41 Points

Draw a path that passes orthogonally through centers of cells. The path must go through all marked arrows on the grid (including the entrance and exit arrows, which are always given) along the direction of the arrows. Some regions ("ice patches") are shaded and marked with bold lines. The path must enter each ice patch at least once, and cannot turn within an ice patch. The path may cross itself on ice patches, but cannot cross itself or enter a cell more than once when not on an ice patch. (The path does not need to go through all the cells.)

**Answer:** For each designated row/column, enter the length of separate path segments from left to right (or top to bottom). Use only the last digit for two-digit numbers; e.g., use '0' for a path segment of length 10. If there are no path segments in the row/column, enter a single digit '0'.

**Example:**



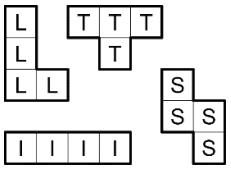
Answer: 1 3

# 15-16 LITS – 27+126 Points

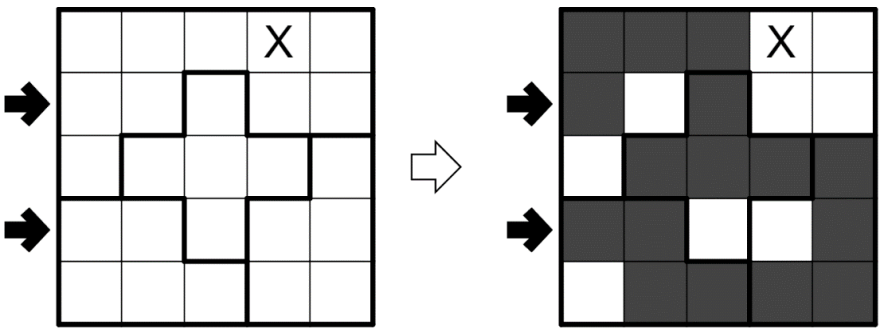
Shade exactly four connected cells in each outlined region to form a tetromino, so that the following conditions are true: (1) All tetrominoes are connected into one large shape along their edges; (2) No 2×2 group of cells can be entirely shaded; (3) When two tetrominoes share an edge, they must not be of the same shape, regardless of rotations or reflections. (Not all four letters have to be present in the grid; for example, it is possible for your solution to not have any "I" shapes.) Cells with an 'X' (if given) are not part of any region.

**Answer:** For each designated row/column, enter its contents from left to right (or top to bottom). For each cell, its contents are the letter of the tetromino occupying that cell, or the letter 'X' if the cell is empty.

**Possible tetrominoes:**




**Example:**




Answer: LXTXX SSXXL

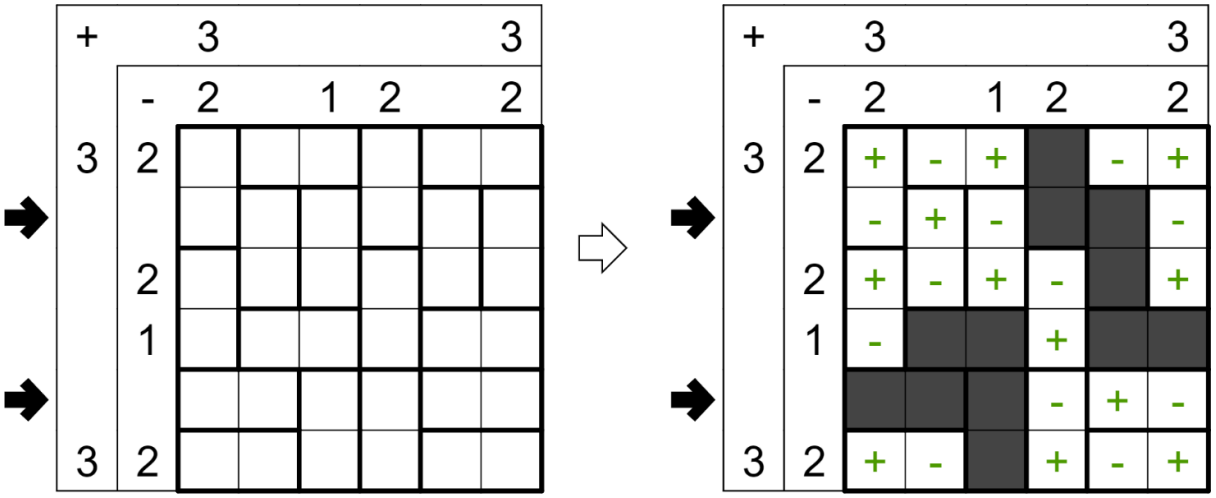
# 17-18 Magnets – 36+82 Points

The grid is partitioned into regions of two square cells each. Put "positive" (+) and "negative" (–) symbols into some cells, at most one symbol per cell, such that each region either has two symbols or no symbols at all. Adjacent cells (even within a region) cannot contain the same symbol.

The numbers above and to the left of the grid indicate the exact number of symbols of the specified type that must be placed in each column or row, respectively. If a number is not given, there might be any number of symbols of the specified type.

**Answer:** For each designated row/column, enter its contents from left to right (or top to bottom). For each cell, its contents are 'P' for a "positive" (+) symbol, 'N' for a "negative" (–) symbol, and 'X' for an empty cell.

**Example:**



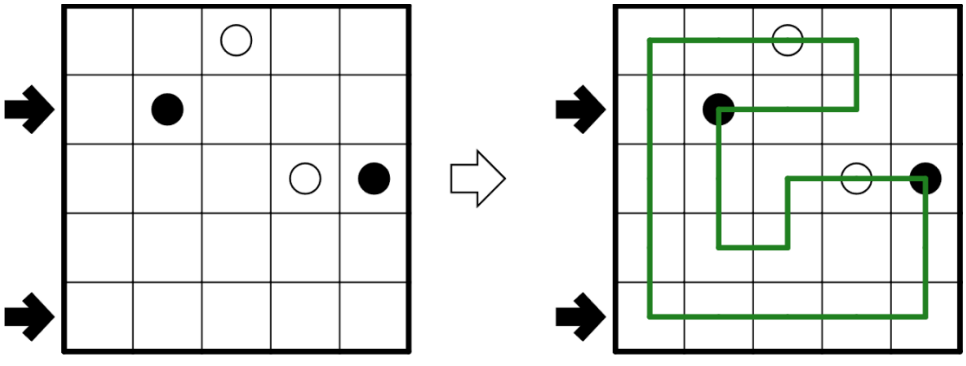

Answer: NPNXXN XXXNPN

# 19-20 Masyu – 10+19 Points

Draw a single, non-intersecting loop that passes orthogonally through all circled cells. The loop must go straight through the cells with white circles, with a turn in at least one of the cells immediately before or after each white circle. The loop must make a turn in all the black circles, but must go straight in both cells immediately before and after each black circle.

**Answer:** For each designated row/column, enter the length of separate loop segments from left to right (or top to bottom). Use only the last digit for two-digit numbers; e.g., use '0' for a loop segment of length 10. If there are no loop segments in the row/column, enter a single digit '0'.

**Example:**



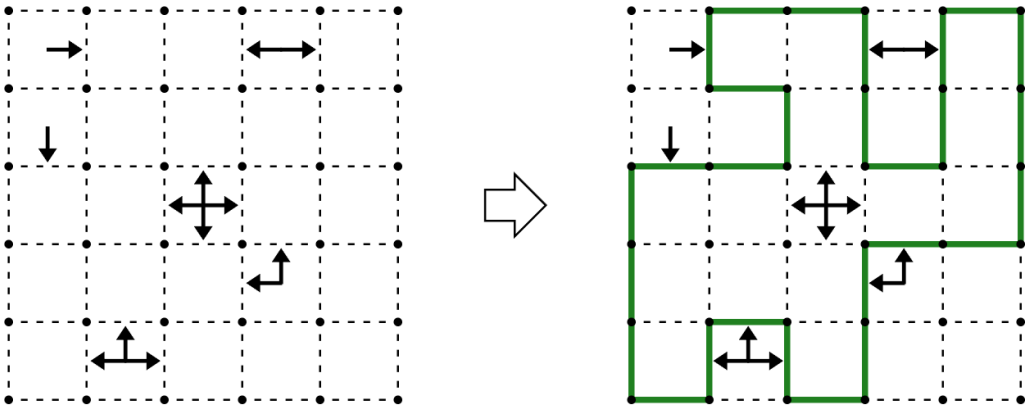
Answer: 2 4

# 21-22 Myopia – 15+51 Points

Draw a single, non-intersecting loop that only consists of line segments between the dots. Arrows in a cell indicate all closest loop edges to that cell along the four orthogonal directions (if there are multiple loop edges of the same closest distance to the cell, there will be multiple arrows).

**Answer:** For each row from top to bottom enter the number of cells inside of the loop. Use only the last digit for two-digit numbers; e.g. '0' for 10 cells inside the loop. If the row contains no cells inside of the loop, enter '0'.

**Example:**



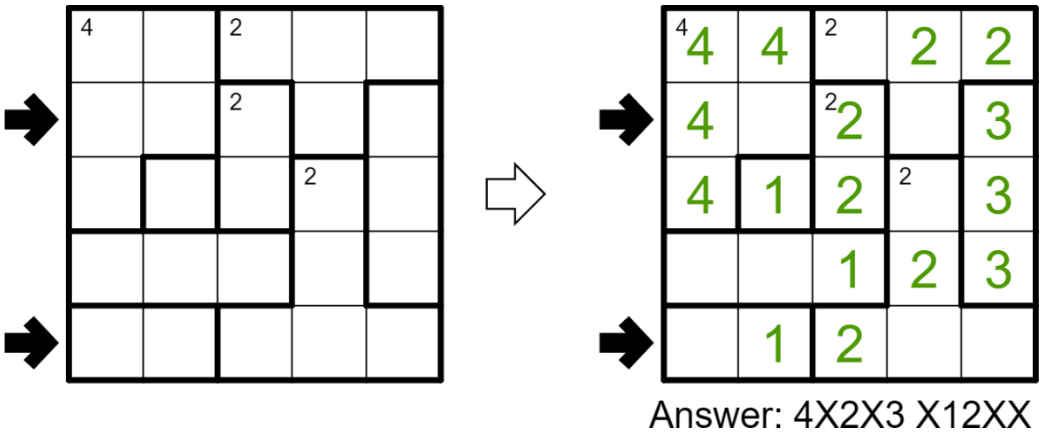
Answer: 32532

# 23-24 Nanro Signpost – 25+25 Points

Label some cells with numbers such that each bold region contains at least one labeled cell. Each number (including any given numbers) must equal the total count of labeled cells in that region; for some regions, that number is given to you in the upper-left cell of the region (but not which cells are labeled). When two labeled cells from different regions are connected orthogonally, they must contain different numbers. All labeled cells are connected orthogonally. No 2×2 group of cells can be entirely labeled.

**Answer:** For each designated row/column, enter its contents, from left to right (or top to bottom). Use 'X' for an empty cell. Use only the last digit for two-digit numbers; e.g., use '0' for the number 10.

**Example:**



Answer: 4X2X3 X12XX

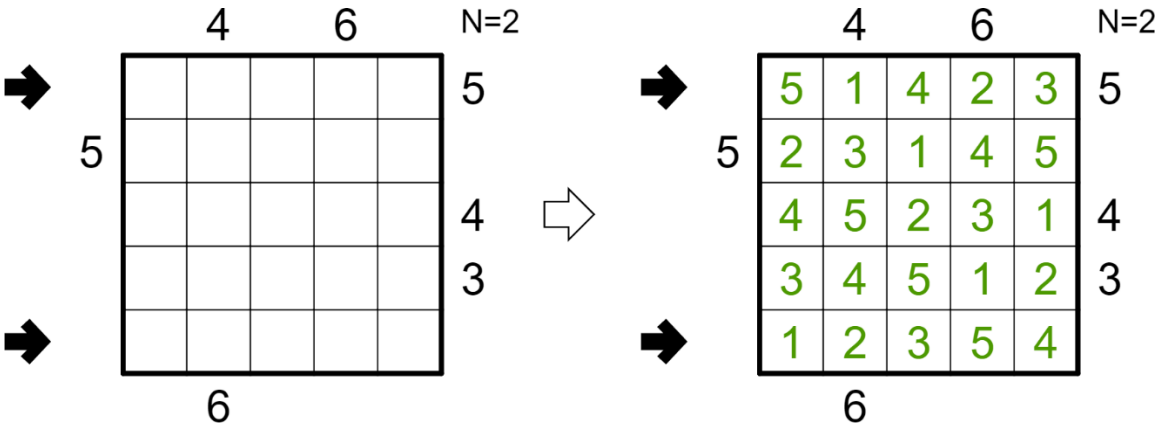
# 25-26 Outside Sums – 14+60 Points

Place a number from 1 to X (integers only) into each cell so that each number appears exactly once in each row and column. (X is the number of cells in each row.)

Numbers outside the grid are equal to the sum of the first N digits appearing in the corresponding row or column. N will be given next to the puzzle.

**Answer:** For each designated row/column, enter its contents, from left to right (or top to bottom). Use only the last digit for two-digit numbers; e.g., use '0' for the number 10. Do not include any numbers outside the grid.

**Example:**



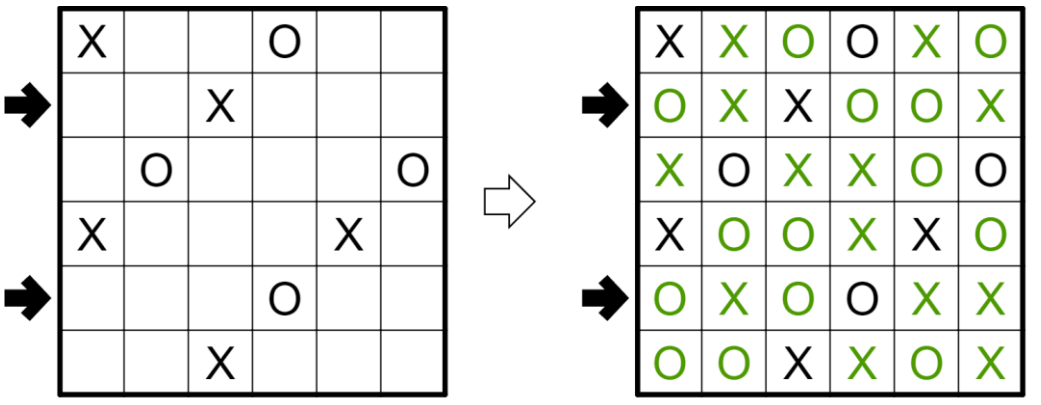

Answer: 51423 12354

# 27-28 Tic-Tac-Logic – 18+95 Points

Place a circle or a cross into each empty cell, one symbol per cell, such that each row and column has an equal number of circles and crosses and no row or column has three consecutive cells with the same symbol. (It is permissible for three cells along a diagonal to have the same symbol.) Additionally, all rows must have a different pattern of symbols and all columns must have a different pattern of symbols (it is permissible for a row to have the same pattern as a column). Some cells have already been filled for you.

**Answer:** For each designated row/column, enter its contents, from left to right (or top to bottom).

**Example:**




Answer: OXXOOX OXOOXX