

SWISS
LOGIC PUZZLE FEDERATION

# INSTRUCTION BOOKLET 

## Swiss Qualification Tournament for the

$27^{\text {th }}$ World Puzzle Championship

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\text { May } 18-21,2018
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## Tournament Details

The tournament will take place on the website of Logic Masters, the German representation of the World Puzzle Federation: http://logic-masters.de/.

The tournament will be open from Friday, May 18, 12:00 CEST to Monday, May 21, 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 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 no later than on Monday May 21 at 21:59 CEST in order to make it before the end of the tournament time window.
- Answer codes consist of rows/columns (left-to-right, top-to-bottom) indicated by arrows outside the puzzles. See the examples of this booklet.
- 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. For a wrong answer you will get 5 points minus. For not solved puzzles you will get no points.

The tournament is destined to evaluate the admission of Swiss players to the World Puzzle Championship 2018. 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 contact Roger Kohler (email: ropeko@yahoo.de, phone: +41798134273).

International test solvers helped to make sure the puzzles are valid and to synthesise an adapted number of points per puzzle. The number of points gives an indication of the difficulty of the puzzle in question.
Special thanks to the test solvers:
Tiit Vunk, Robert Vollmert, Yuhei Kusui, Hatice Esra Aydemir

## List of Puzzles

| $\mathbf{N r}$ | Puzzle type | Points |
| :--- | :--- | :---: |
| 1 | Tents | 8 |
| 2 | Tents | 54 |
| 3 | Fillomino | 22 |
| 4 | Fillomino | 43 |
| 5 | LITS | 12 |
| 6 | LITS | 70 |
| 7 | Masyu | 6 |
| 8 | Masyu | 58 |
| 9 | Akari | 9 |
| 10 | Akari | 45 |
| 11 | Slitherlink | 13 |
| 12 | Slitherlink | 67 |
| 13 | Bimaru | 31 |
| 14 | Bimaru | 65 |
| 15 | Offspring | 32 |
| 16 | Offspring | 157 |
| 17 | Tiger in the Woods | 6 |
| 18 | Tiger in the Woods | 27 |
| 19 | Snaky Station Loop | 3 |
| 20 | Snaky Station Loop | 39 |
| 21 | Transparent Yajilin | 15 |
| 22 | Transparent Yajilin | 178 |
| 23 | Diagonal Fillomino | 43 |
| 24 | Diagonal Fillomino | 1200 |
|  | Total |  |

## 1-2 Tents

Place tents into the empty cells in the grid, at most one tent per cell. Tents may not be in adjacent cells, not even diagonally. There must be the same number of tents and trees. The tents and trees must match up in such a way that each tent is orthogonally adjacent to its own tree. (It is permissible for a tree to be adjacent to a tent that matches with another tree.)
Some rows and columns may be numbered. A number indicates the number of tents that must be in that row or column.
Answer: For each row from top to bottom enter the number of tents. Use only the last digit for two-digit numbers; e.g. '0' for 10 tents.

## Examples:



## 3-4 Fillomino

Divide the grid along the dotted lines into regions (called polyominoes) so that no two polyominoes with the same area share an edge. Inside some cells are numbers; each number must equal the area of the polyomino it belongs to. A polyomino may contain zero, one, or more of the given numbers. (It is possible to have a "hidden" polyomino: a polyomino without any of the given numbers. "Hidden" polyominoes may have an area, including a value not present in the starting grid, such as 6 in a puzzle with only clues numbered 1-5.)
The dots in cells are only used for entering your answers.
Answer: Enter the area of the polyomino each dot is in, reading from left to right. Use only the last digit for two-digit numbers; e.g. ' 0 ' for a polyomino of size 10.

## Example:





$\square$

2
4

## 5-6 LITS

Shade a shape of four orthogonally connected cells in each black bordered region so that all shaded cells form a single contiguous area. This area can't contain any $2 \times 2$ group of shaded cells. Two identical shapes in different regions can't touch each other by a side. Rotations and reflections are considered the same shape.
Cells with a given ' $X$ ' can not be shaded.
Answer: For each designated row/column, enter the contents of each shaded cell, from left to right (or top to bottom). For each cell, its contents are the letter of the tetromino occupying that cell ('I', 'L', 'T' or 'S'). Ignore empty cells or cells with a given ' X '. If there is no cell shaded enter a ' $X$ '.

## Possible tetrominoes:



Example:


## 7-8 Masyu

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.
The grid may contain black cells, which are only decoration. The loop can not go through black cells.

Answer: For each designated row/column, enter the letter for each cell, from left to right (or top to bottom). The letter for a cell is 'l' if the path goes straight through the cell, and 'L' if the path turns in the cell. Ignore empty/black cells. If the path visits no cell, enter a 'X'.

Example:


Answer code: LLII

## 9-10 Akari

Locate some "light bulbs" in the grid such that every white cell is "lit up". Each bulb occupies a single white cell, and lights up its own cell, as well as white cells in the four orthogonal directions until the light beam encounters a black square or the edge of the grid. A bulb may not illuminate another light bulb. All white cells must be lit up by at least one bulb. A given number in a black cell indicates how many cells orthogonally adjacent to it are occupied by bulbs.

Answer: For each row from top to bottom enter the number of bulbs. Use only the last digit for two-digit numbers; e.g. '0' for 10 bulbs.

## Example:



Answer code: 21111

## 11-12 Slitherlink

Draw a single, non-intersecting loop that only consists of horizontal and vertical segments between the dots. A number inside a cell indicates how many of the edges of that cell are part of the loop.
Answer: For each designated row/column, enter the lengths (number of cells) of each segment of cells inside the loop, 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 cells inside the loop for a row, enter the single digit ' 0 '.

## Example:



Answer code: 3111

## 13-14 Bimaru

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 italic numbers on 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 left where a ship piece appears (the numbers on 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 that row is empty, enter ' 0 '.

## Example:




Answer code: 13101

## 15-16 Offspring

Place a digit from 1 to 9 into each cell of the grid so that same digits do not touch each other, even diagonally. Every digit must have all the digits that are smaller than itself in the eight neighbouring cells, including diagonal ones.
The dots in cells are only used for entering your answers.
Answer: Enter the number in the cell each dot is in, reading from left to right. Use only the last digit for two-digit numbers; e.g. '0' for a cell with the number 10.
Example:


| 1 | 3 | 1 | 3 | 4 |
| :--- | :--- | :--- | :--- | :--- |
| 4 | 2 | 4 | 2 | 1 |
| 3 | 5 | 1 | 5 | 6 |
| 1 | 4 | 3 | 4 | 3 |
| 3 | 2 | 5 | 1 | 2 |





Answer code: 4513

## 17-18 Tiger in the Woods

Draw a path in the grid that starts from any white cell and travels horizontally and vertically to visit every white cell. The path can cross over itself but it may not overlap itself. It cannot cross the start or end cells. Following the path from the starting cell, it may change direction only after facing either a black cell or the edge of the grid. The path must end facing a black cell or edge.
Answer: For each designated row/column, enter the letter for each cell, from left to right (or top to bottom). The letter for a cell is 'l' if the path goes straight through the cell, 'L' if the path turns in the cell, and ' $X$ ' if the path intersects. Ignore black, start and end cells.

## Example:



Answer code: LXI

## 19-20 Snaky Station Loop

Locate a "snaky loop" in the grid; it goes through some number of cells orthogonally and comes back to itself. Each cell is used at most once by the loop. The loop may not touch itself, not even diagonally. (In other words, if two cells in the loop touch orthogonally, then they must be exactly one cell apart along the path of the loop, and if two cells in the loop touch diagonally, then they must be exactly two cells apart along the path of the loop.)
Each house is orthogonally adjacent to exactly one cell of the loop (representing a "station"). Stations may not be adjacent to each other, not even diagonally. Houses may not share stations.

The loop may not go through any cell containing a tree.
Answer: For each designated row/column, enter the letter for each cell, from left to right (or top to bottom). The letter for a cell is 'l' if the path goes straight through the cell, and 'L' if the path turns in the cell. Ignore cells with a tree or house. If the loop visits no cell, enter a 'X'.

## Example:




Answer code: LLLL ILIL

## 21-22 Transparent Yajilin

Blacken some white cells and draw a closed loop passing through centres of all remaining white cells horizontally or vertically. Blackened cells cannot share an edge with each other. The loop can pass through clue cells, and clue cells that are not passed through must be blackened. Numbered arrows in white cells indicate the total number of blackened cells in the direction pointed at by the arrow. Numbers in blackened clue cells do not necessarily have to be satisfied.

Answer: For each designated row/column, enter the letter for each cell, from left to right (or top to bottom). The letter for a cell is 'l' if the path goes straight through the cell, and 'L' if the path turns in the cell. Ignore black cells.

## Example:



Answer code: ILLI

## 23-24 Diagonal Fillomino

Enter a number into each cell so that the numbers divide the grid into areas. An area consists of diagonally connected cells with the same number. Each number must equal the size of the area it belongs to. No two areas of the same size touch each other, not even diagonally. Areas can cross other areas of different size. An area may contain zero, one, or more of the given numbers. (It is possible to have a "hidden" area: an area without any of the given numbers. „Hidden" areas may have an area, including a value not present in the starting grid, such as 6 in a puzzle with only clues numbered 1-5).
The dots in cells are only used for entering your answers.
Answer: Enter the numbers of all cells with a dot, reading from left to right. Use only the last digit for two-digit numbers; e.g. '0' for a cell with the number 10.

## Example:








| 5 | 3 | 5 | 1 | 5 |
| :--- | :--- | :--- | :--- | :--- |
| 3 | 5 | 3 | 5 | 2 |
| 2 | 1 | 4 | 2 | 1 |
| 5 | 2 | 5 | 4 | 5 |
| 1 | 5 | 4 | 5 | 4 |




Answer code: 544

