Swiss Qualification for World Puzzle Championship 2017

Welcome to the Swiss qualification to the World Puzzle Championship 2017 in Bangalore.

This competition consists of two files. This instruction booklet and an encrypted puzzle file. You can download the protected puzzle file before starting. You will see the password as soon as you start the competition. The file consists of 14 pages. The examples are not in the competition file. When you see the password, print out the file and solve the puzzles on paper. Don't forget to have enough paper and a full print cartridge as well. Have a pencil, a rubber and this booklet in place.

You will see 32 input fields to put the answer key. In some puzzles arrows outside of the grid point to the designated row/column that should be entered into the input field. There is only one input field per puzzle. For some puzzles there are several arrows, marked with a letter, which indicate the order of entering to the input field (see examples of this instruction booklet). Be careful, there is nothing worse, than a correctly solved puzzle thrown away by a typo in the answer key. Submit your solution with the button, "Lösung absenden". All the keys are left to right and top to bottom. There is no difference between lower and upper case letters. Spaces, dots and commas are ignored.

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. After the start you will have exactly 120 minutes to solve the puzzles and to submit the answers. Later answers are ignored. You can choose your starting time in the given period. Please choose a time where you will not get disturbed. If this sounds a little bit complicated, you are invited to try the "Testwettbewerb," to become familiar with the contest engine. The three Swiss people with the highest score belong together with the Swiss Champion to the national team in Bangalore.

Good luck and have fun!

Date: 12. May 2017, 12:00 - 15. May 2017, 23:59

Duration: 120 minutes

Pages of competition document: 14

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Contest Engine: The competition will take place at www.logic-masters.de (Logic Masters Deutschland)

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References: Some examples of the instruction booklet are copied or derived from the instruction booklets of WPF Puzzle GPs and WPC 2016.

Puzzle type	Points
Nurikabe	5+40
Tapa	10+20
Snake	20+30
LITS	5+60
Akari	25+30
Polytopia	15+55
Hashi	15+120
Domino	25+45
Tents	15+20
Masyu	15+45
Crypto	25+25
Star Battle	15+80
Easy As ...	5+30
Slitherlink	30+40
Magnets	15+75
Scrabble	45+200

Nurikabe

Shade some cells black (leaving the other cells white) so that the grid is divided into non-overlapping regions; cells of the same color are considered in the same region if they are adjacent horizontally or vertically. Each given number must be in a white region that has the same area in cells as that number. Each white region must have exactly one given number. All black cells must be in the same region. No 2×2 group of cells can be entirely shaded black.

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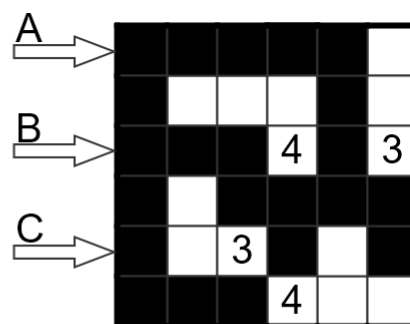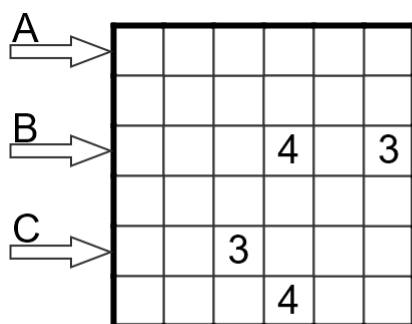

Answer: 5, 31, 111

Tapa

Shade some empty cells black (cells with numbers cannot be shaded). 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.

Numbers in a cell indicate the lengths of contiguous black cell groups along the "ring" of (up to) 8 cells touching that cell. (If there is more than one number in a cell, then there must be at least one white (unshaded) cell between the black cell groups.) The numbers are given in no particular order. As a special case, if the number given in a cell is a zero (0), it means that none of the cells around that cell may be shaded black. If it is a question mark (?), it is an unknown number >0.

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 size 10. If there are no black cells in the row, enter a single digit '0'.
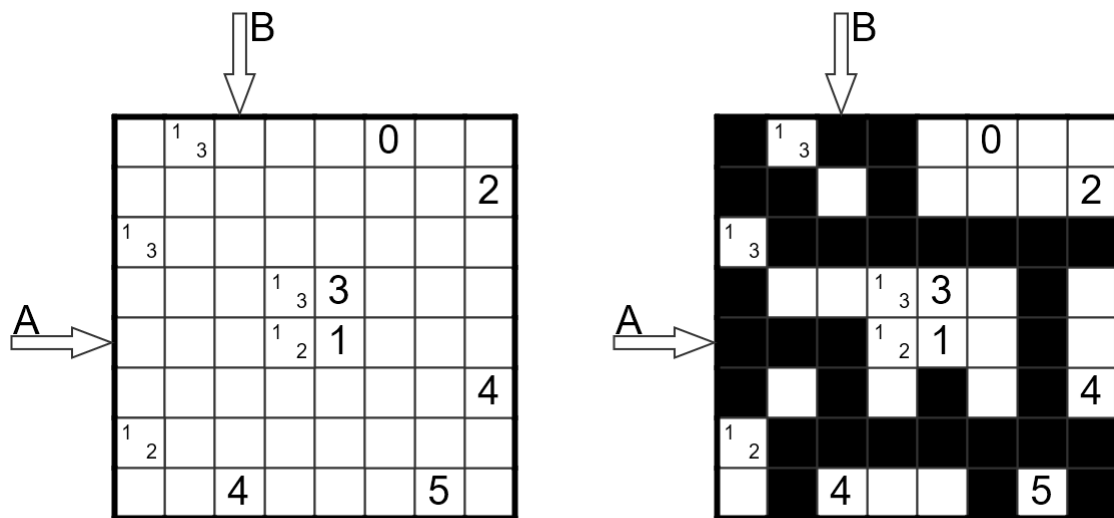

Answer: 31, 113

Snake

Locate a "snake" in the grid. The snake is a path that starts in a cell, goes through some number of cells orthogonally, and ends in a cell. Each cell is used at most once by the snake. The snake may not touch itself, not even diagonally. (In other words, if two cells in the snake touch orthogonally, then they must be exactly one cell apart along the path of the snake, and if two cells in the snake touch diagonally, then they must be exactly two cells apart along the path of the snake.) Numbers outside the grid, if given, indicate how many cells in that row or column are occupied by the snake.

The two cells containing the ends of the snake are shaded.

Answer: For each designated row/column, enter its contents. Use O for a cell occupied by the snake and X for a cell not occupied by the snake.
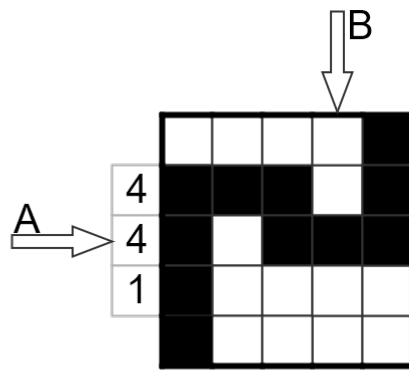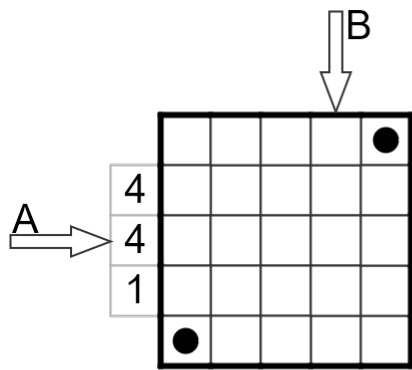
LITS

Blacken four cells in each outlined area so that each area includes one tetromino shape. Tetrominoes may be rotated and/or mirrored. Blackened cells should form a single interconnected area which does not have any 2x2 square fully painted black. Same tetrominoes cannot touch each other from the sides, but they may touch each other diagonally.

Answer: For each designated row/column, enter the contents of each cell, 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.
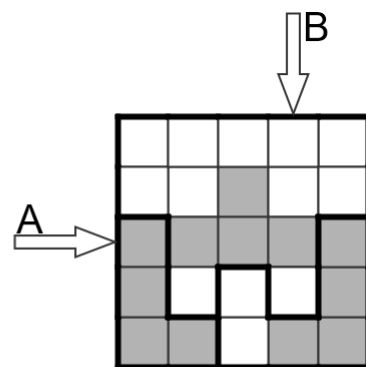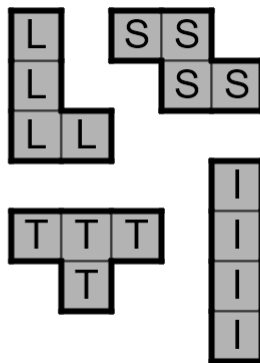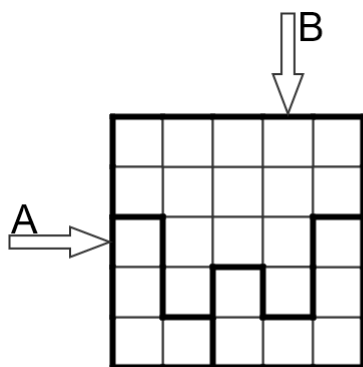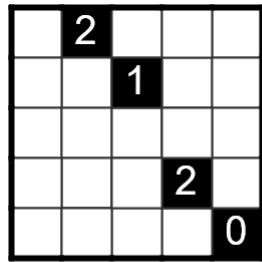

Answer:
LTTTL, XXTXL

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 the number of bulbs. Use only the last digit for two-digit numbers; e.g., use '0' for 10 bulbs. If there are no bulbs in the row, enter a single digit '0'.
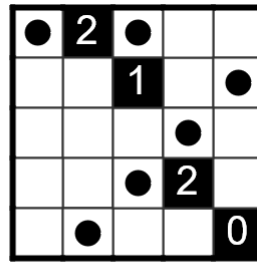

Answer: 21111

Polytopia

Shade some empty cells black so that the black cells form the shapes of different polyminoes. The set of polyminoes is given next to the grid and can NOT be rotated or reflected. Polyminoes cannot touch along edges or corners. Arrows in a cell indicate all closest shaded cell(s) to that cell along the four orthogonal directions (if there are multiple cells of the same closest distance to the cell, there will be multiple arrows).

Answers: For each designated row/column, enter the contents of each cell, from left to right (or top to bottom). Use 'O' for a shaded cell and 'X' for all other cells.
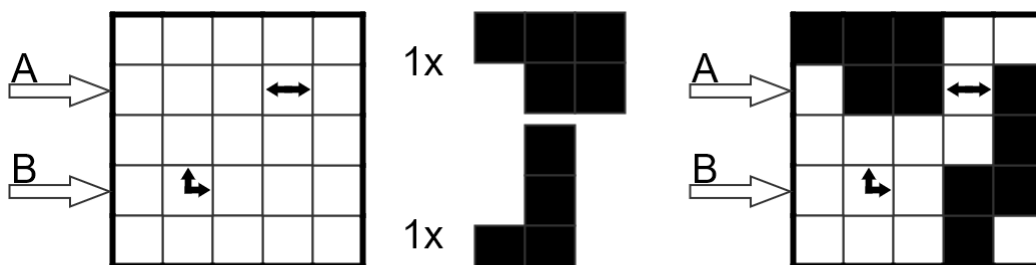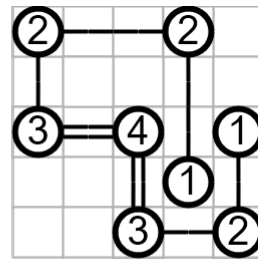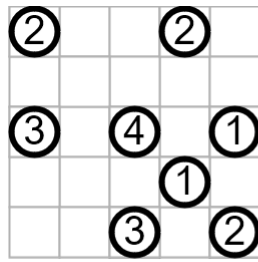

Answer:
XOOXO, XXXOO

Hashi

All islands have to be connected through bridges (every island has to be reachable from every other island). The bridges may only be built horizontally or vertically and may neighter cross other bridges nor islands. Between two island there are at maximum two bridges. The numbers in the island give the number of bridges that are connected to this island.'

Answer: Number of horizontal bridges per row. Use only the last digit for two-digit numbers; e.g., use '0' for 10 bridges. If there are no bridges in the row, enter a single digit '0'.

Answer: 10201

Domino

Find the whole set of dominoes by dividing the grid into orthogonally connected areas. Each area contains exactly two cells.

Black cells are not part of any domino.

The domino set will be given next to the puzzle.

Answer: For each row from top to bottom the number of horizontal dominoes. Use only the last digit for two-digit numbers; e.g., use '0' for 10 dominoes. If there are no dominoes in the row, enter a single digit '0'.


Dominoes:
00, 01, 02, 03, 11,
12, 13, 22, 23, 33

Answer: 11110

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 the number of tents. Use only the last digit for two-digit numbers; e.g., use '0' for 10 tents. If there are no tents in the row, enter a single digit '0'.
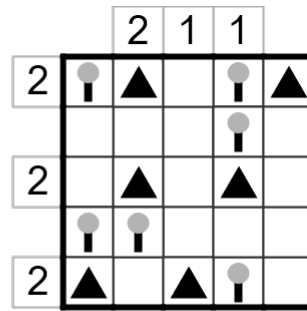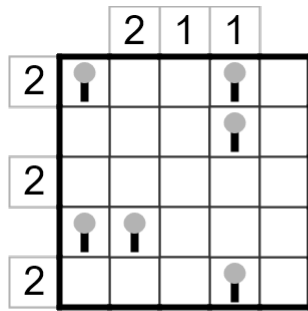
Answer: 20202

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.

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 'I' if the path goes straight through the cell, 'L' if the path turns in the cell, and 'X' if the path does not go through the cell.
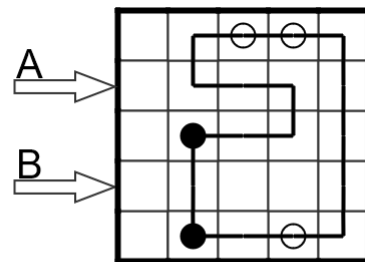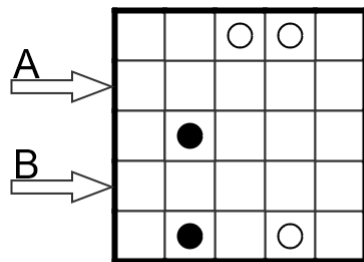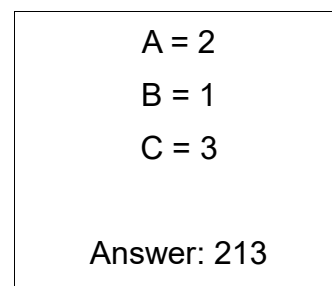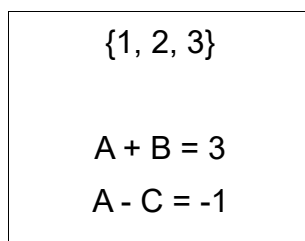

Answer:
XLILI, XIXXI

Crypto

Each letter is equal to a number. No two letters are equal to the same number. All equations have to be mathematically correct. The set of possible numbers is given next to the puzzle.

Answer: Value of each letter starting with A, B, etc. (i.e. if A=1, B=2, C=3, the anwer key is 123). Use only the last digit for two-digit numbers; e.g., use '0' for A=10.

{1, 2, 3}

$A + B = 3$

$A - C = -1$

$A = 2$

$B = 1$

$C = 3$

Answer: 213

Star Battle

Place stars into some cells in the grid, no more than one star per cell. Each row, each column, and each outlined region must contain exactly two stars. Cells with stars may not touch each other, not even diagonally.

Answer: For each row the column of the first star (columns are indexed starting with 1). Use only the last digit for two-digit numbers; e.g., use '0' for column 10.
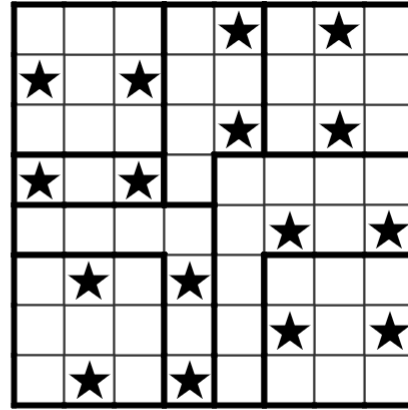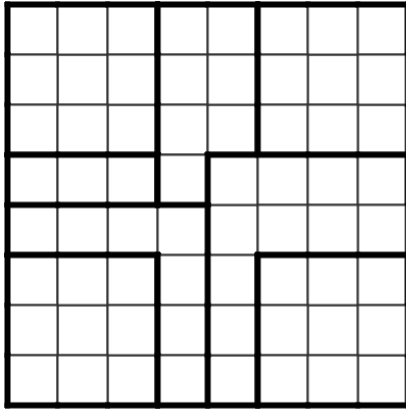
Answer: 51516262

Easy As ...

Place letters of the specied list into some cells, no more than one letter per cell, so that each letter appears exactly once in each row and column. The letters outside the grid indicate the first letter that can be seen in the respective row or column from the respective direction.

Answer: For each designated row/column, enter its contents. Do not include any letters outside the grid. Use 'X' for an empty cell.

{A, B, C}
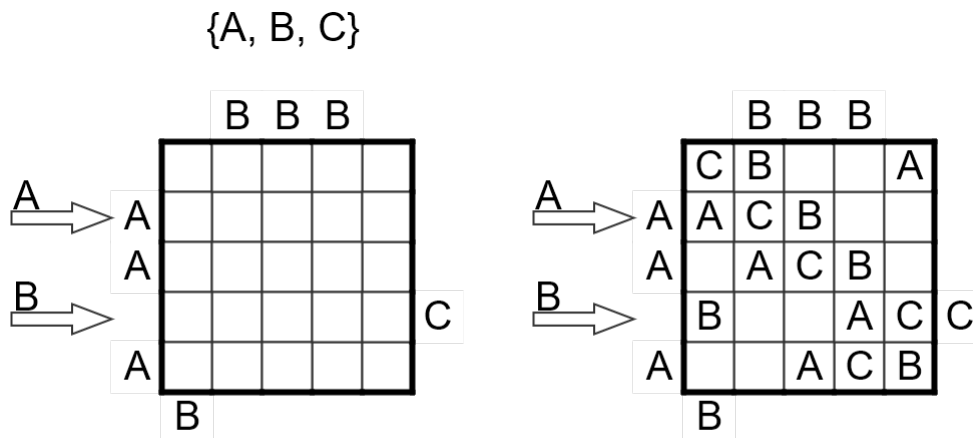
Answer:
ACBXX, BXXAC

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'.
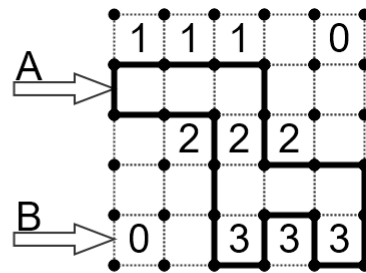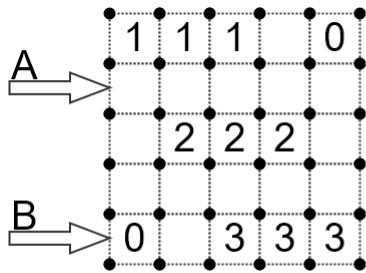

Answer: 3, 11

Magnets

The grid is partitioned into regions of two square cells each (note that only region borders are drawn). 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 specied 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 specied type.

Answer: For each designated row/column, enter its contents. 'P' for cells with a "positive" symbol, 'N' for cells with a "negative" symbol and 'X' for an empty cell.
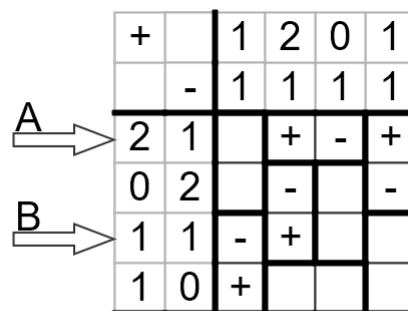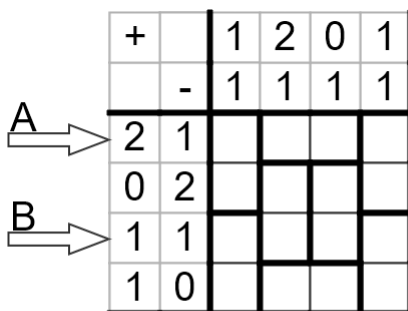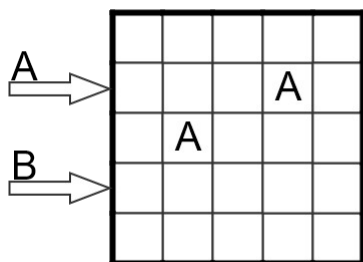

Answer:
XPNP, NPXX

Scrabble

Place all words from the given list into the grid so that each word can be read from left to right or from top to bottom in the grid exactly once. All words must be orthogonally connected. No words except the ones listed can appear anywhere in the grid (not even a two-letter word).
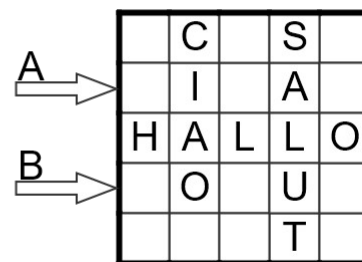
No letter can be placed in black cells.

There will be set of letters given next to the grid. Each occurrence of these letters in the grid has been given.

Answer: For each designated row/column its contents. Empty and black cells are ignored for the solution.

Given letters: {A}

Words:
CIAO,
HALLO,
SALUT

Answer: IA, OU