

WPF PUZZLE GP 2024 COMPETITION BOOKLET

Host Country: Bulgaria Author: Deyan Razsadov

Special Notes: The final version of the booklet was not ready at the time of competition start, resulting in competitors only having access to the non-final point values as seen in the original instruction booklet and competition booklet. The preliminary results on the website (and an updated Instruction booklet on the website) were based on the final point values in the unpublished competition booklet. After much discussion, we have decided to score the round with the non-final point values as printed in the booklets at the start of the competition. The organizers apologize for any dissatisfaction caused as a result of these changes.

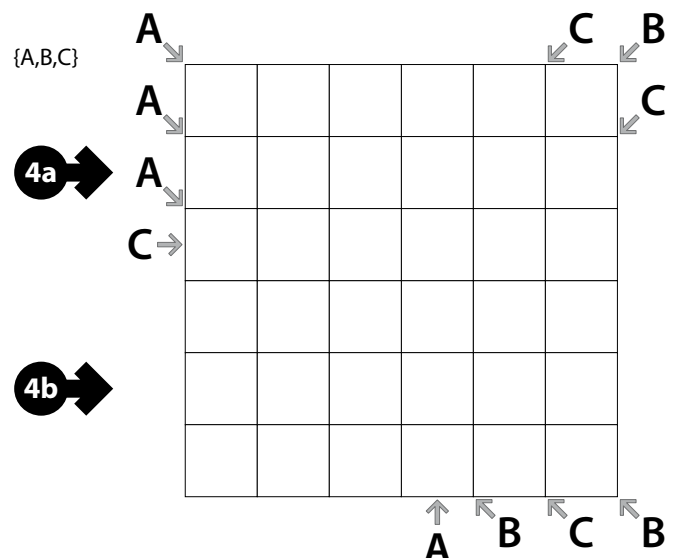
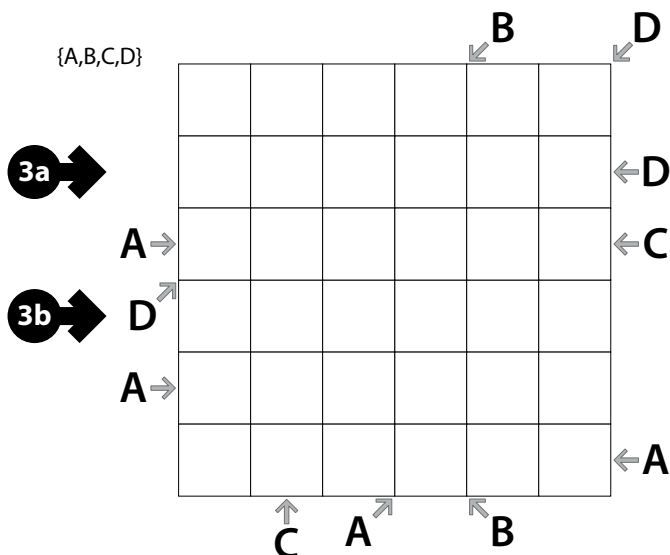
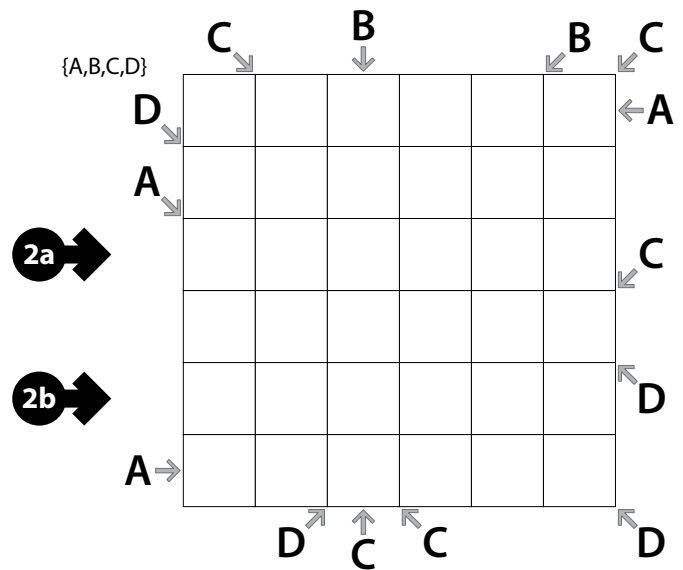
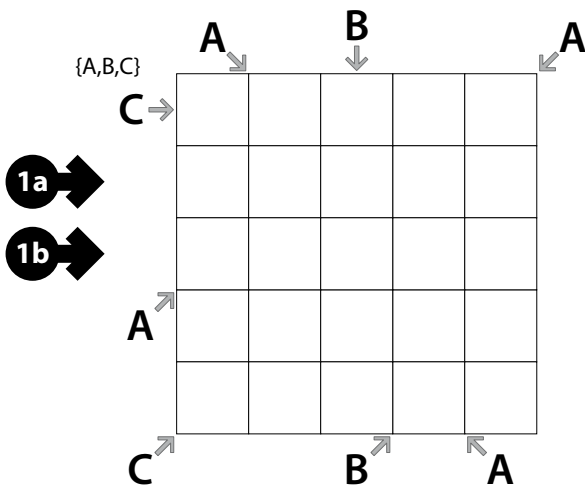
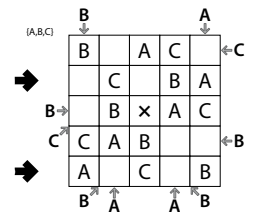
1-4. Easy As (Diagonal Clues) (14, 16, 18, 47 points)

Place letters of the specified 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, column, or diagonal from the respective direction. Some letters may already be filled in for you. Some cells might be marked with a cross; do not put any letters into those cells.

(Note that letters may repeat on diagonals.)

Answer: For each designated row, enter its contents from left to right. Do *not* include any letters outside the grid. Use 'X' for an empty cell.

Example Answer: XCXBA, AXCXB



5-8. Skyscrapers (Diagonal Clues) (12, 13, 30, 33 points)

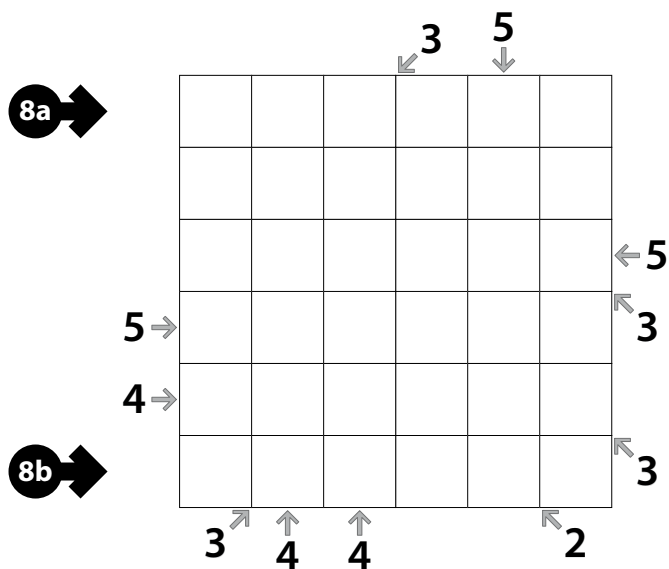
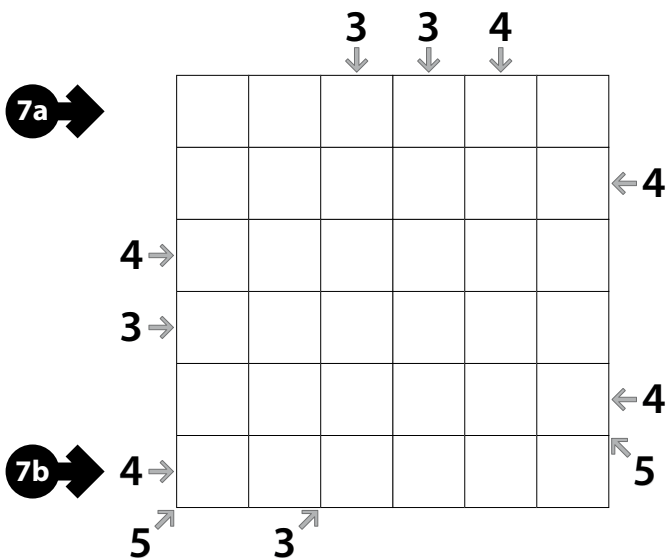
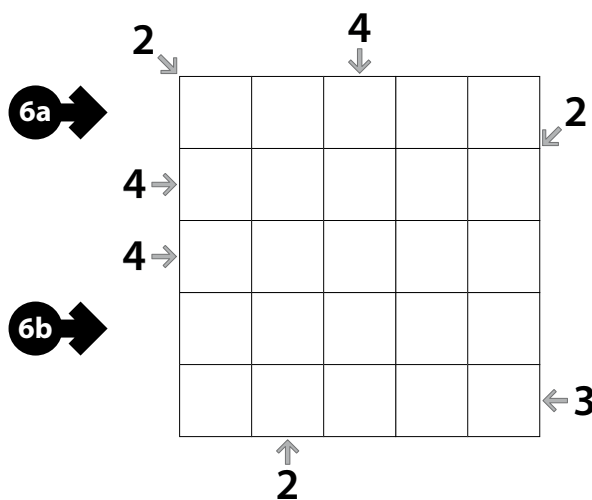
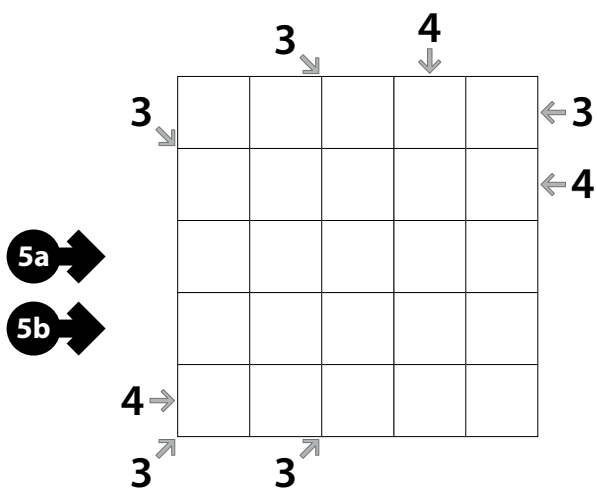
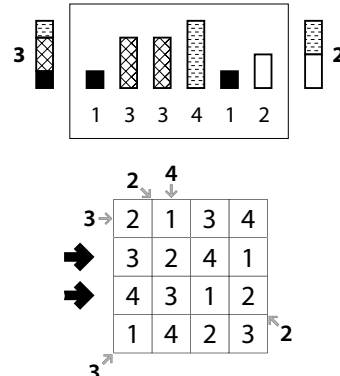
Place a number from 1 to X into each cell so that each number appears exactly once in each row and column. (X is the number of cells in each row.) Each number represents a skyscraper of its respective height. Some numbers may already be filled in for you.

The numbers outside the grid indicate how many skyscrapers can be seen in the respective row, column, or *diagonal* from the respective direction; smaller skyscrapers are hidden behind higher ones. Skyscrapers of the same height (as might be found on a diagonal) hide each other.

Answer: For each designated row, enter its contents from left to right. Do *not* include any numbers outside the grid.

Example Answer: 3241, 4312

Skyscraper Clue Example



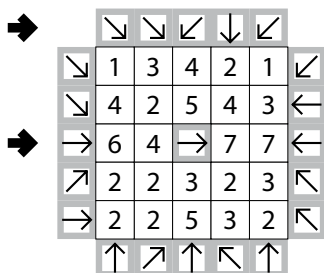


9-10. Arrows (Irregular) (13, 23 points)

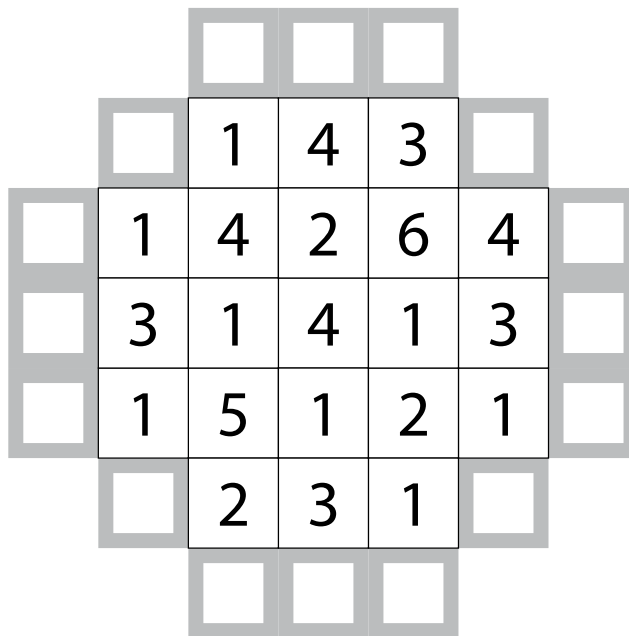
Draw an arrow in each of the grey-bordered cells (shown by a thick outline). Each arrow must point in one of the eight standard directions, and must point to at least one numbered cell. Each numbered cell must be pointed at by exactly that number of arrows.

Answer: Enter the contents of the indicated rows, from left to right. Use 'Z' for an arrow pointing diagonally to the lower-left or upper-right, a 'I' for an arrow pointing orthogonally, and 'N' for an arrow pointing diagonally to the upper-left or lower-right. Alternatively, you may use any three characters instead of 'ZIN', as long as they are distinct. Ignore any cells without arrows.

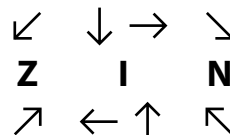
Example Answer: NNZIZ, III



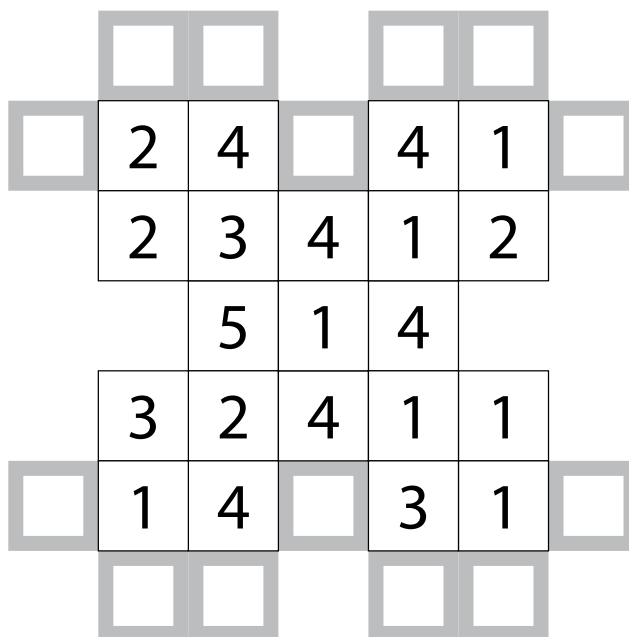
9a →



9b →



10a →



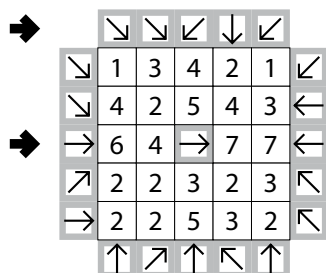
10b →



11-12. Arrows (Irregular) (30, 75 points)

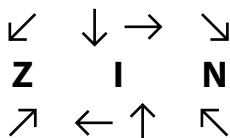
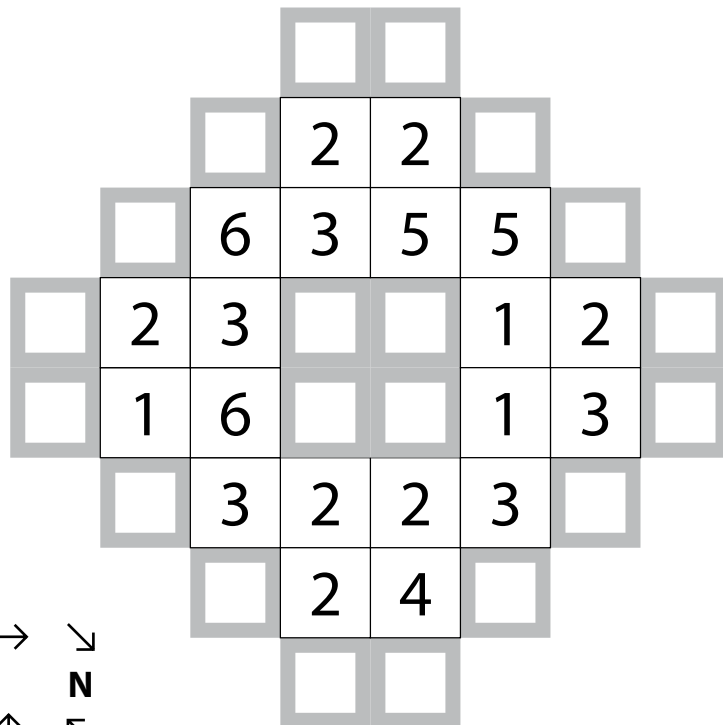
Answer: Enter the contents of the indicated rows, from left to right. Use 'Z' for an arrow pointing diagonally to the lower-left or upper-right, a 'I' for an arrow pointing orthogonally, and 'N' for an arrow pointing diagonally to the upper-left or lower-right. Alternatively, you may use any three characters instead of 'ZIN', as long as they are distinct. Ignore any cells without arrows.

Example Answer:
NNZIZ, III



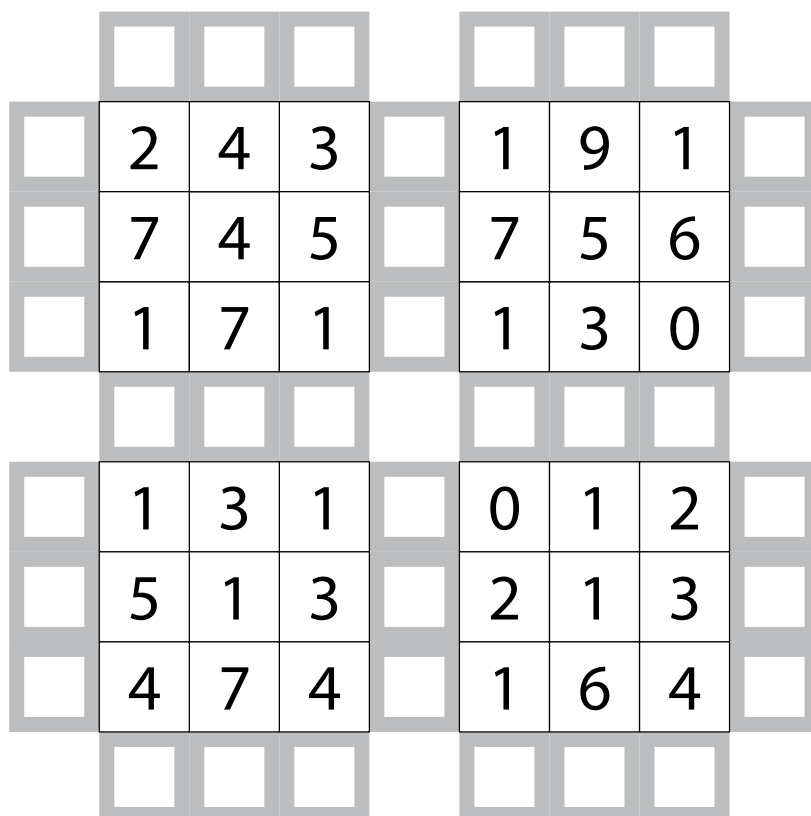
11a →

11b →



12a →

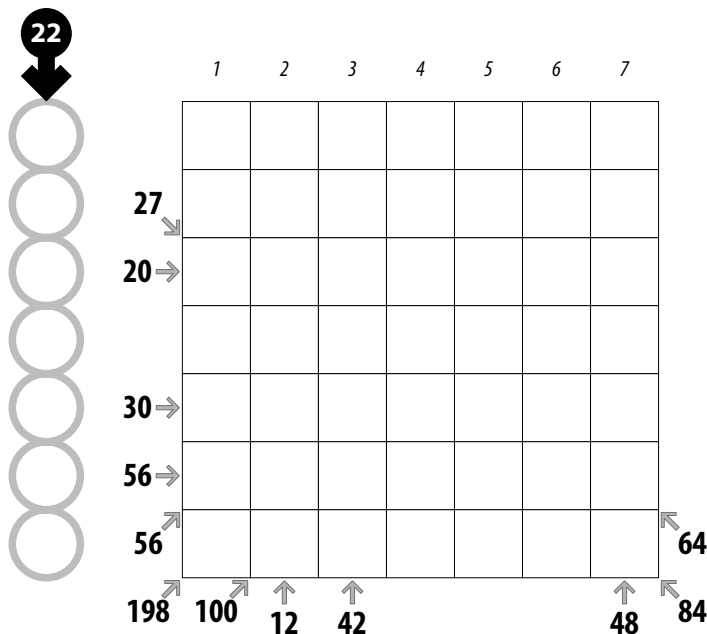
12b →





22-23. Products [Deyan Razsadov] (35, 38 points)

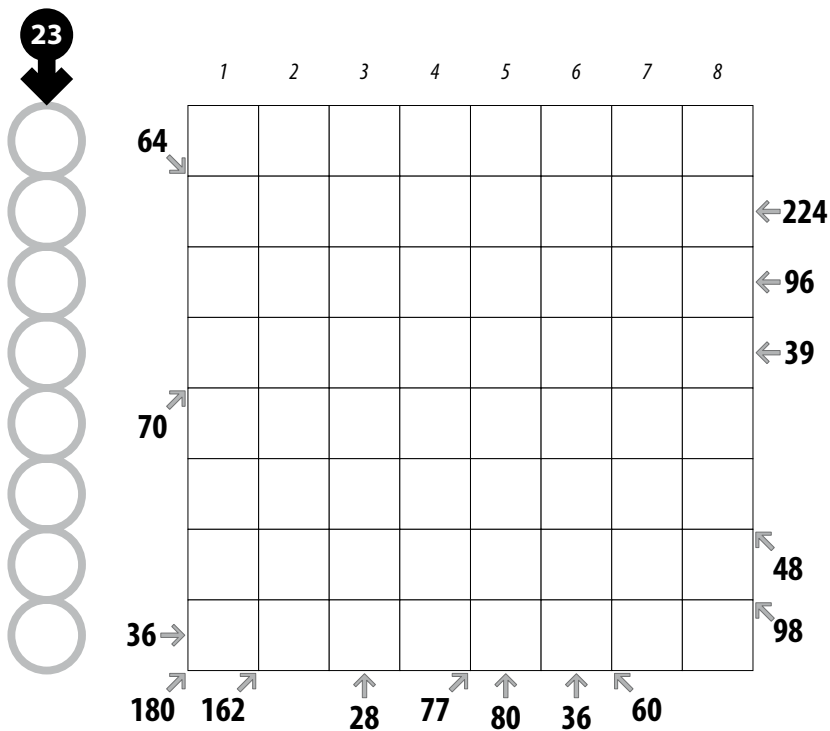
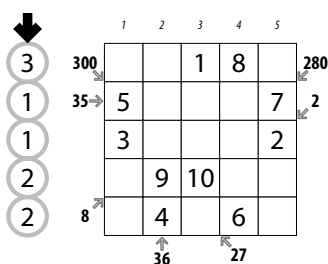
Fill in some cells with numbers, at most one number per cell. Each number from 1 to X must appear exactly once, where X is twice the number of rows in the grid. Each row must contain exactly two numbers. Each column must contain exactly two numbers. (There are no similar restrictions on the diagonals.) When given, the numbers to the left, right, and below the grid indicate the (multiplicative) product of all numbers in that row, column, or diagonal, respectively. (The product of one number is the number itself; the product of no numbers is 1.)



The 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 the left where a number appears (the number on top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first number appears in column 10.

Example Answer: 31122

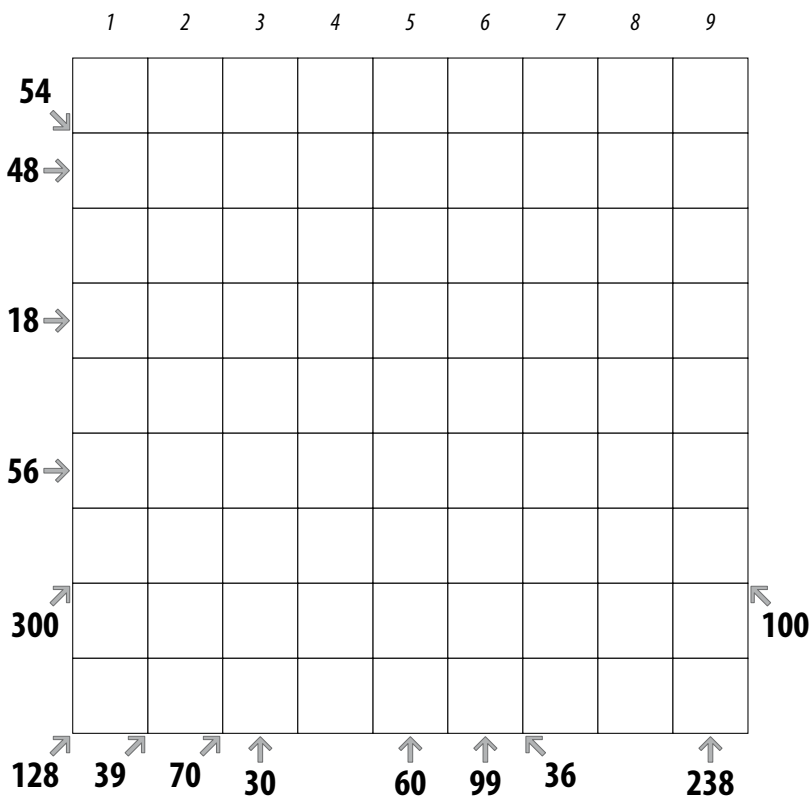
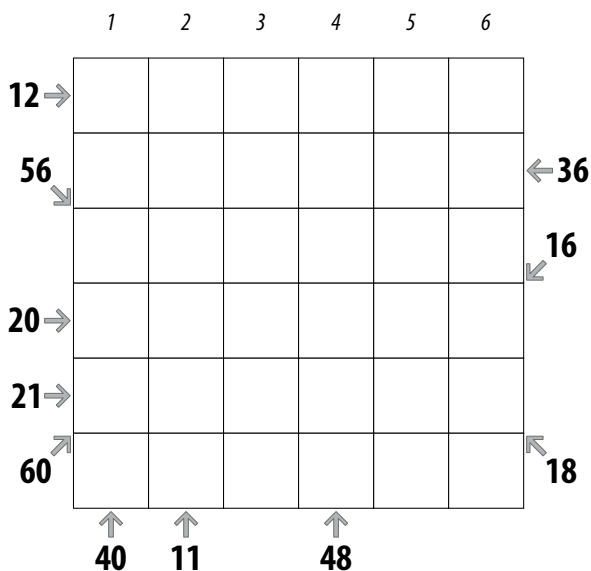
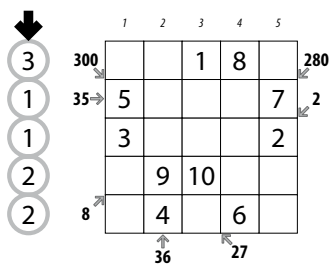




24-25. Products [Deyan Razsadov] (17, 88 points)

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

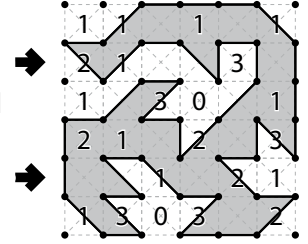
Example Answer: 31122





26-29. Slitherlink (Diagonal) (36, 38, 43, 53 points)

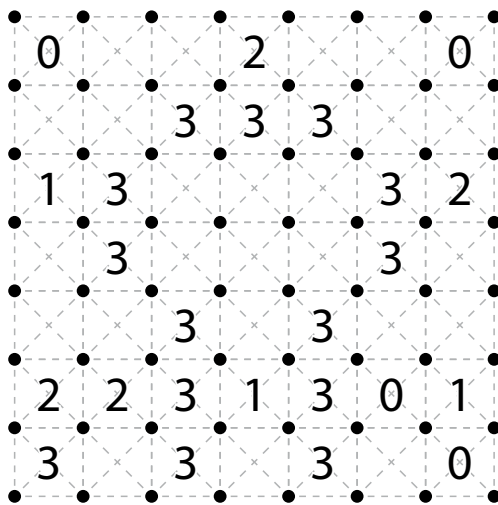
Draw a single, non-intersecting loop that only consists of line segments between the dots along the dashed lines, including diagonals inside cells. A number inside a cell indicates how many of the edges or diagonals of that cell are part of the loop. (Note that at most one diagonal may be used in each cell, as the loop is non-intersecting.)



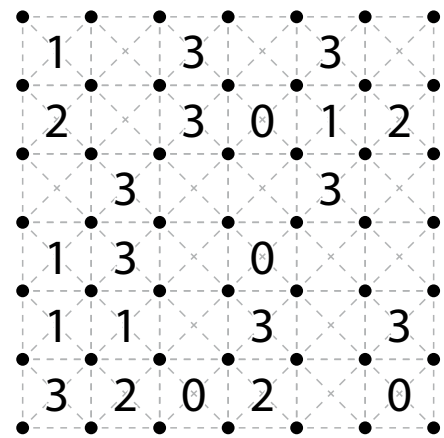
Answer: For each designated row, enter its contents from left to right. Use 'o' for a cell that does not have a diagonal as part of the loop and 'x' for a cell that does have a diagonal as part of the loop. You may use two other characters, as long as they are distinct.

Example Answer: xxoxoo, oxxoxo

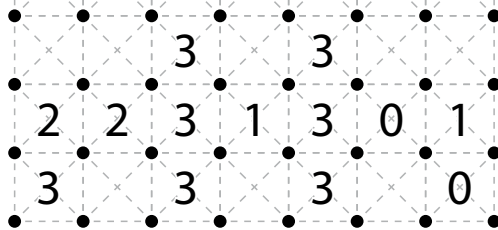
26a →



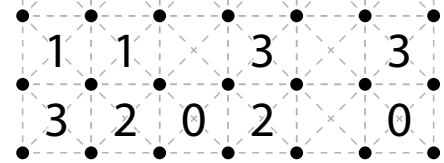
27a →



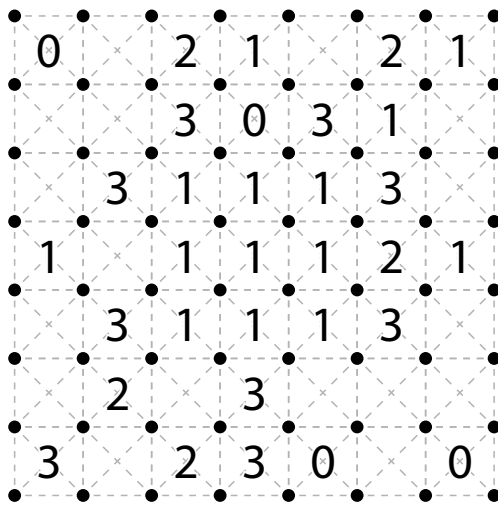
26b →



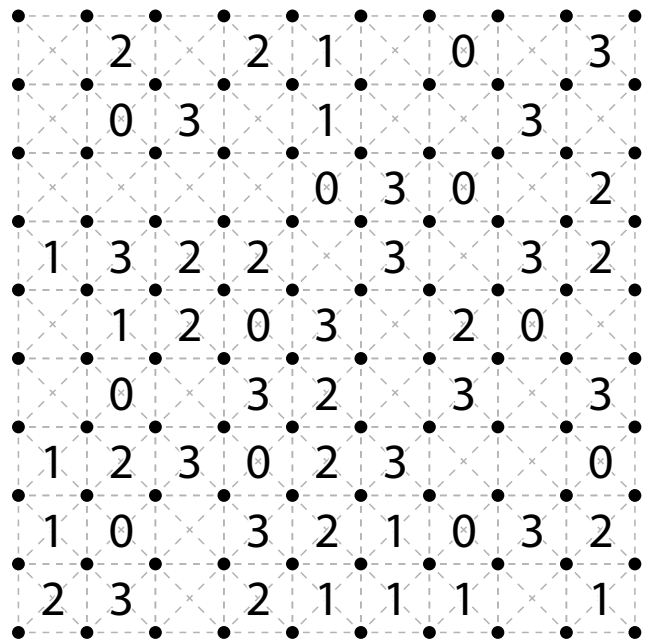
27b →



28a →



29a →



28b →



29b →



