

# WPF PUZZLE GP 2024 INSTRUCTION BOOKLET

**Host Country: South Korea**

**JinHoo Ahn, Minyoung Joo, Yongseok Choi**

**Special Notes:** Note that puzzles with the same rule set are not always grouped together. This is for thematic purposes.

<b>Points:</b>					
1.	Square Meadows	3	19.	Wordle Bank	55
2.	Square Jam	4	20.	Master Mind	7
3.	Square Meadows	7	21.	Master Mind	11
4.	Square Jam	8	22.	Master Mind	9
5.	Light and Shadow	3	23.	Candles	16
6.	Light and Shadow	43	24.	Black Holes	13
7.	Tapa-Like Loop (Unknowns)	7	25.	Candles	96
8.	Tapa-Like Loop (Unknowns)	39	26.	Black Holes	53
9.	TomTom (Different Set)	3	27.	Voxas	6
10.	Math Path	11	28.	Voxas	29
11.	TomTom (Different Set)	23	29.	Voxas	53
12.	Math Path	49	30.	Star Battle	57
13.	Geradeweg	5	31.	Continents	33
14.	Rail Pool	5	32.	Continents	46
15.	Geradeweg	39	33.	Skyscrapers	18
16.	Rail Pool	46	34.	Continents	33
17.	Wordle Bank	7		<b>TOTAL:</b>	849
18.	Master Mind	12			

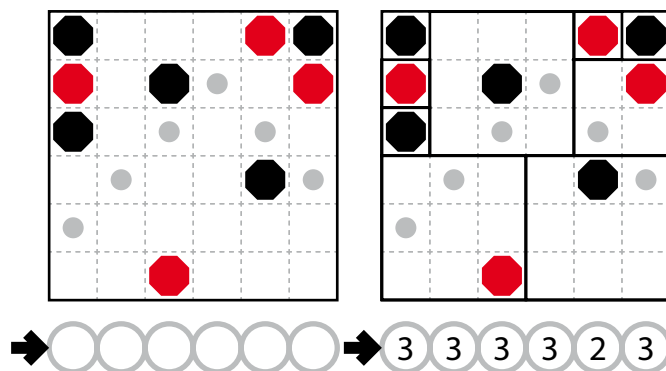
**1,3. Square Meadows [JinHoo Ahn, Minyoung Joo] (3, 7 points)**

Divide the grid into square regions along the dashed grid lines such that each cell is in exactly one square region. Each square region must contain exactly one octagon.

*The dots in cells are only used for entering your answers. The colors of the octagons are for aesthetic purposes only.*

**Answer:** Enter the side length of the square region each dot is in, reading the dots from left to right. (Ignore which row the dots are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a square of side length 10.

**Example Answer:** 33323



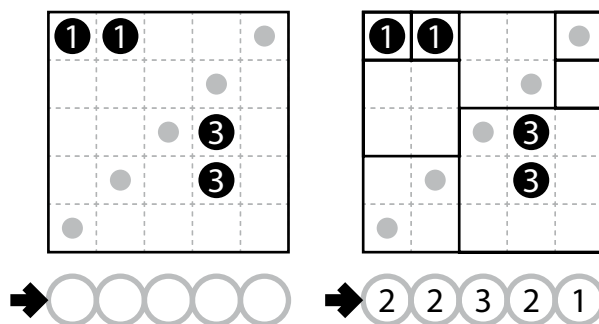
**2,4. Square Jam [JinHoo Ahn, Minyoung Joo] (4, 8 points)**

Divide the grid into square regions along the dashed grid lines such that each cell is in exactly one square region. There must not be any locations in the grid where four square regions touch. Each given number in the grid must be inside a square region with a side length equal to that number. (It is possible for a square region to not contain any given numbers, or a square region to contain multiple numbers.)

*The dots in cells are only used for entering your answers.*

**Answer:** Enter the side length of the square region each dot is in, reading the dots from left to right. (Ignore which row the dots are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a square region of side length 10.

**Example Answer:** 22321



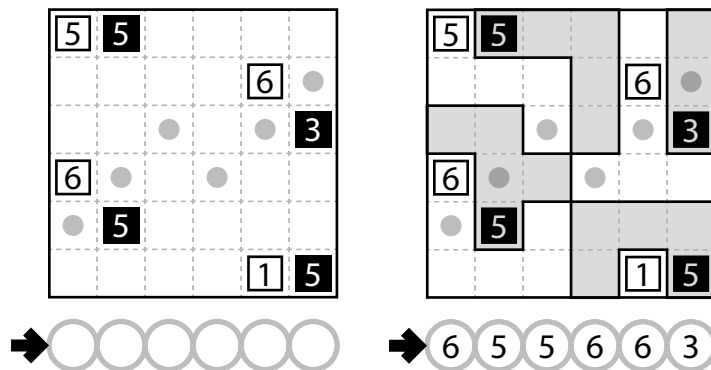
**5-6. Light and Shadow [JinHoo Ahn, Yongseok Choi] (3, 43 points)**

Divide the grid along the dashed grid lines into regions. Each region must contain exactly one numbered square, which must be the area of that region (number of cells). If two regions touch along an edge, one of them must have a black numbered square and the other must have a white numbered square.

*The dots in cells are only used for entering your answers. If you wish, you may shade in the regions that have a black square instead of drawing the region borders, although neither choice should affect the answer key.*

**Answer:** Enter the area of the region each dot is in, reading the dots from left to right. (Ignore which row the dots are in.) Use only the last digit for two-digit numbers; e.g., use '0' for a region of area 10.

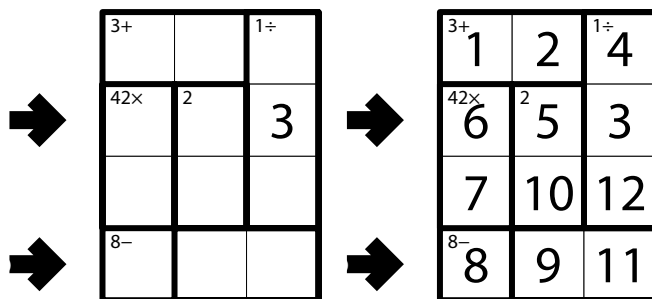
**Example Answer:** 655663





**10,12. Math Path [JinHoo Ahn] (11, 49 points)**

Place a number from 1 to X into each cell so that every cell has a different number. (X is the total number of cells.) If two numbers differ by one, they must be in cells that touch at a corner or an edge. A number in the upper-left corner of each region (if given) indicates the value of one of the four basic operations applied to all numbers in the region, starting with the largest number for subtraction and division (e.g., 1, 2, 4 with division has a clue of  $2 \div$  as  $4 \div 2 \div 1 = 2$ ). The operation may or may not be given in the region, but at least one of the four operations must apply. Some numbers may be given in the grid.



If a region has only one cell, a given number is equal to the number that should be placed in the cell and any operation has no effect and is for aesthetic purposes only.

**Answer:** For each designated row, enter its contents, from left to right. Use only the last digit for two-digit numbers; e.g., use '0' for a cell that contains the number 10.

**Example Answer:** 653, 891

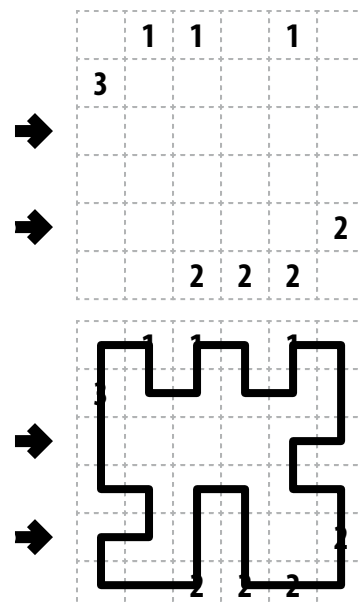
**13,15. Geradeweg [JinHoo Ahn] (5, 39 points)**

Draw a single loop that passes orthogonally through centers of cells. The loop cannot intersect itself or enter the same cell more than once.

The loop must go through all cells with a number. Every maximally straight segment in the loop (that is, a section of the loop between two consecutive turns of the loop) that is partially contained in a numbered cell must have its length equal to that number.

**Answer:** For each designated row, enter the letter for each cell, from left to right. The letter for a cell is 'I' if the loop goes straight through the cell, 'L' if the loop turns in the cell, and 'X' if the loop does not go through the cell. You may use three other letters or numbers, as long as they are distinct.

**Example Answer:** IXXXLL, LLIIXI



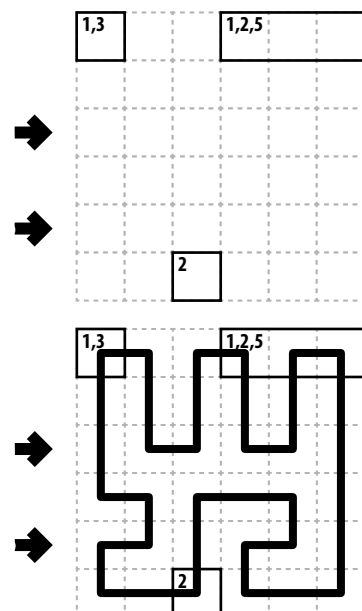
**14,16. Rail Pool [JinHoo Ahn] (5, 46 points)**

Draw a single loop that passes orthogonally through centers of all cells. The loop cannot intersect itself or enter the same cell more than once.

Some regions are drawn and include a set of numbers in the upper-left corner. Each maximally straight segment in the loop (that is, a section of the loop between two consecutive turns of the loop) that is partially or fully contained in a region must have its length equal to one of those numbers. Every number in a region's set must be represented by at least one maximally straight segment in the loop that is partially or fully contained in that region.

**Answer:** For each designated row, enter the letter for each cell, from left to right. The letter for a cell is 'I' if the path goes straight through the cell, and 'L' if the path turns in the cell. You may use other letters or numbers, as long as they are distinct.

**Example Answer:** ILLLLL, LLLLLL



**17,19. Wordle Bank [JinHoo Ahn] (7, 55 points)**

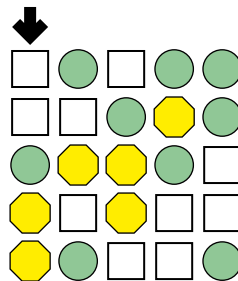
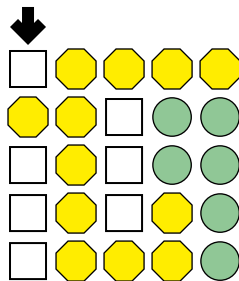
Place the words from the given list into the rows of the grids, a different word in each row and one letter in each cell going from left to right.

Each grid has a secret code comprised of letters. Each letter in the secret code corresponds with one column of the grid. A green (circular) cell means that the letter placed in that cell matches the letter in the secret code for that column. A yellow (octagonal) cell means that the letter placed in that cell matches the letter in the secret code for a different column that cannot possibly be matched by a green cell, or is not already matched by another yellow cell to that yellow cell's left. A white (square) cell means either that the letter placed in that cell does not match the secret code for any column, or that all copies of the letter in the secret code have already been matched by green cells anywhere or yellow cells to the white cell's left.

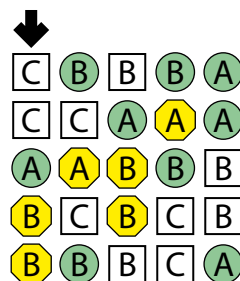
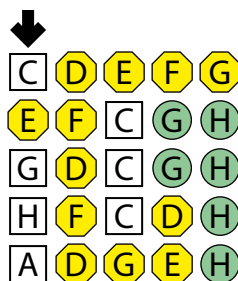
*The secret codes may or may not be meaningful words, and it may be impossible to determine them with certainty. Only the words in ALL CAPITALS in the given list are important for the puzzle; the other words are for aesthetic purposes. For the example puzzle, the secret code to the left grid is either DEFGH or FEDGH, while the secret code to the right grid is ABABA.*

**Answer:** For each grid, enter the first letter of each word (not the secret codes), from top to bottom.

**Example Answer:** CEGHA, CCABB



- A A B B B
- A D G E H
- B B B C A
- B C B C B
- C B B B A
- C C A A A
- C D E F G
- E F C G H
- G D C G H
- H F C D H



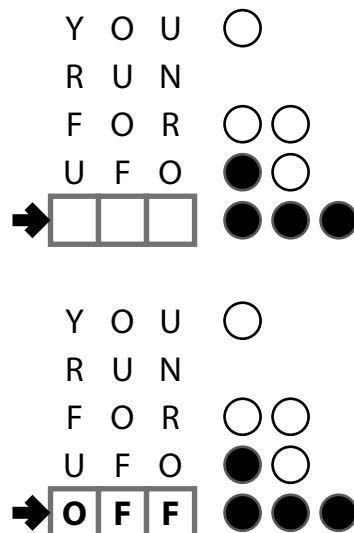
**18,20-22. Master Mind [JinHoo Ahn] (12, 7, 11, 9 points)**

Identify a secret code comprised of letters. Each row represents a guess at the secret code, whose correctness is described by black and/or white dots to the right. A black dot represents a letter in the guess that is in the same position as a letter in the secret code. A white dot represents a letter in the guess that is in the secret code, but not in the same position. The dots are given in no specific order, and each letter in the secret code contributes at most one dot, with black dots given priority over white dots in case of ambiguity (for example, if the guess was FREED and the secret code was LEVEE, the puzzle would display 1 black and 1 white). Each letter in the secret code appears in at least one guess. Blank spaces can appear in the guesses but will never appear in the secret code.

*The last line with empty space for the secret code, and any notes on the side, are given for aesthetic reasons only. The secret code may or may not be a meaningful word.*

**Answer:** Enter the secret code.

**Example Answer:** OFF



**23,25. Candles [JinHoo Ahn, Yongseok Choi] (16, 96 points)**

Place candles into some empty cells. Each candle has a value equal to the number of edges of its cell that are not the edge of a different cell with a candle. No candle may have a value of 0 (that is, no cell with a candle is touching a cell with a candle on all of its edges).

Some numbers are given in the grid. A given number indicates the sum of the values of all candles in cells that share an edge *or corner* with the numbered cell.

*The numbers on the candles in the solution are only used to help visualize the solution.*

**Answer:** For each designated row, enter its contents, from left to right. Use 'x' for a cell without a candle and 'o' for a cell with a candle. You may use two other letters or numbers, as long as they are distinct.

**Example Answer:** xOxxxxO, xOxxxx

	12		4		4
→					
	6		9		4
→	6			6	3
	7		10		12

→	4	12	4	4	4	
	4				4	
	6		9		4	
→	6	2	3	6	3	
	3	1		3	3	
	7	3	10	3	12	3

**24,26. Black Holes [Minyoung Joo] (13, 53 points)**

Place stars into some empty cells in the grid, no more than one star per cell. Cells with stars cannot touch each other along an edge or a corner.

Numbered cells represent the total "gravity" values of the first star seen in each of the eight standard directions from that cell. A star that is one cell away has a value of 4; a star that is two cells away has a value of 2; a star that is three cells away has a value of 1, and a star that is further than three cells away (or a direction that has no stars) has a value of 0. (Note that stars "block" other stars as numbered cells only see the first star in each direction, but numbered cells do not block stars from other numbered cells.)

*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 star appears (the number on top of that column). Use only the last digit for two-digit numbers; e.g., use '0' if the first star appears in column 10. If no star appears in a row, enter '0'.

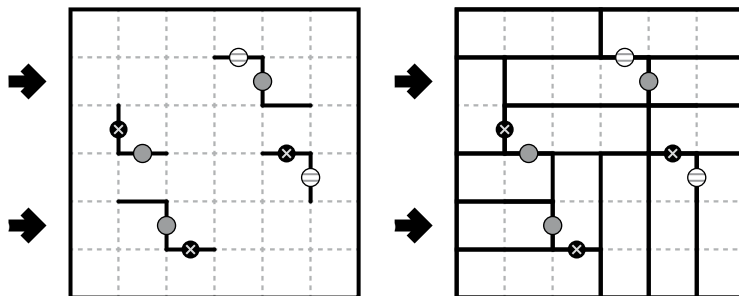
**Example Answer:** 030361

↓		1	2	3	4	5	6
○							1
○							2
○	1						3
○							5
○							
○							
○							

↓		1	2	3	4	5	6
○							1
○			★				2
○	1						3
○			★				5
○							★
○	★		★				

**27-29. Voxas [JinHoo Ahn, Yongseok Choi, Yongseok Choi] (6, 29, 53 points)**

Divide the grid into rectangular-shaped regions along the grid lines. Every region must have a height of 1 cell ("horizontal") or a width of 1 cell ("vertical"), and the other dimension must be 2 ("short") or 3 ("long"). Some region boundaries are given to you. Additionally, some region boundaries are marked with a dot. A white dot (with an "=" symbol) must touch two regions with identical height and width. A black dot (with an "X" symbol) must touch a horizontal region and a vertical region; it must also touch a short region and a long region. A gray dot (with no symbol) means that that boundary cannot be marked with a white dot and cannot be marked with a black dot.



**Answer:** For each designated row, enter the height of the region containing each cell, from left to right. (Enter multiple 1s for horizontal regions.)

**Example Answer:** 211111, 112333

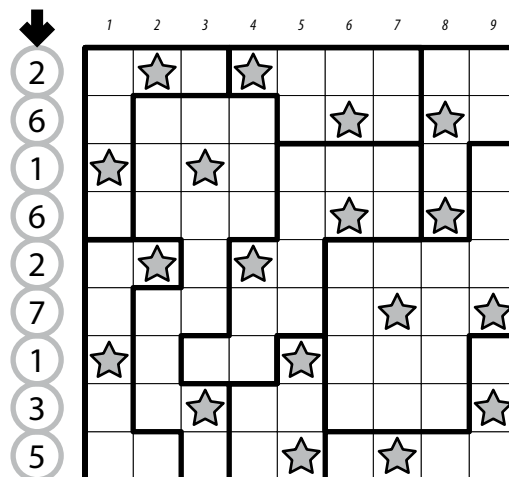
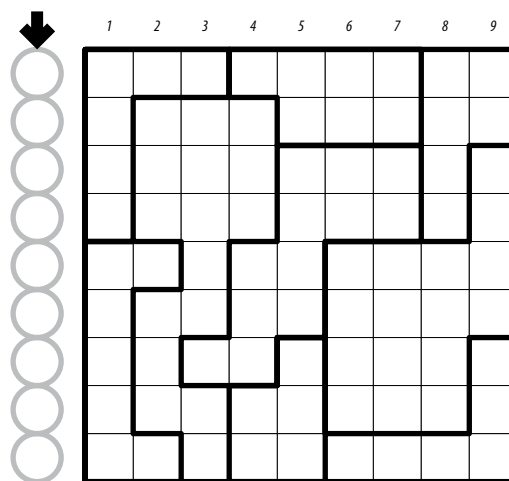
**30. Star Battle [Minyoung Joo] (57 points)**

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 cannot touch each other along an edge or a corner.

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

**Example Answer:** 261627135



**31,32,34. Continents [Yongseok Choi] (33, 46, 33 points)**

Place a number from the specified set into some cells so that exactly the specified set of numbers appears in each row and column.

Two cells are considered to be in the same group if they both contain numbers and touch along an edge. The value of a group is the sum of all numbers in that group. The numbers outside the grid indicate the value of the first group that can be seen in the respective row or column from the respective direction.

**Answer:** For each designated row, enter its contents, using 'x' for an empty cell. Do *not* include any numbers outside the grid.

**Example Answer:** 1x3x2, 321xx

{1,2,3} **10 3**

11					



{1,2,3} **10 3**

11			2	1	3
	3		2	1	
	1		3		2
	2	1		3	
	3	2	1		



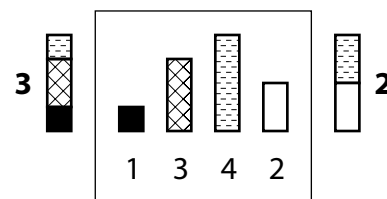
**33. Skyscrapers [JinHoo Ahn] (18 points)**

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. The numbers outside the grid indicate how many skyscrapers can be seen in the respective row or column from the respective direction; shorter skyscrapers are hidden behind taller ones. Some numbers may already be filled in for you.

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

**Example Answer:** 45312, 23541

Skyscraper Clue Examples



→

						5
						3
						3
4						
→	3					
						4 2

→

						5
						3
						3
4						
→	3					
						4 2