WPF SUDOKU/PUZZLE **GRAND PRIX** 2017

ROUND 1B

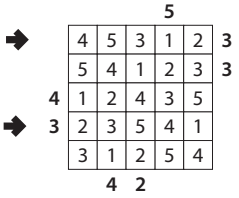
WPF PUZZLE GP 2017 COMPETITION BOOKLET

Host Country: Serbia

Nikola Živanović, Zoran Tanasić

Special Notes: None.

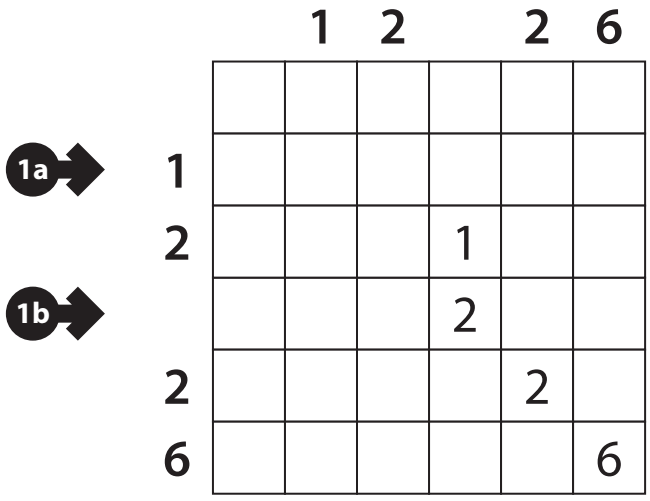
B1-2. Skyscrapers [Zoran Tanasić] (33, 32 points)

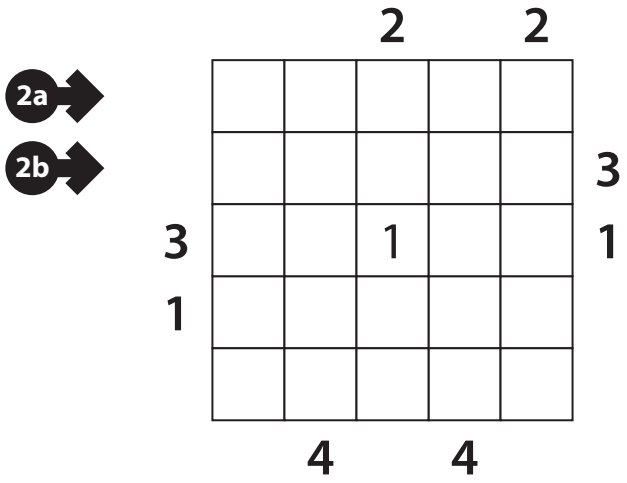


Place a digit from 1 to X into each cell so that each digit appears exactly once in each row and column. (X is the number of cells in each row.) The digits represent skyscrapers of their respective heights. The numbers outside the grid indicate how many skyscrapers can be seen in the respective row or column from the respective direction; smaller skyscrapers are hidden behind higher ones. Some digits may already be filled in for you.

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

Example Answer: 45312, 23541





B3-4. Battleships [Nikola Živanović] (59, 47 points)

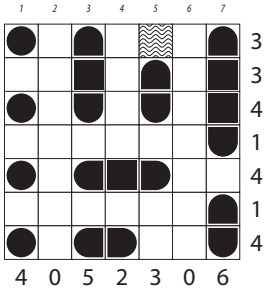
Locate the indicated fleet in the grid. Each piece of a ship occupies a single cell. A cell that does not contain a ship piece is considered "sea". Ships can be rotated. Ships do not touch each other, not even diagonally (that is, if two ship pieces are in adjacent cells, they must be part of the same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

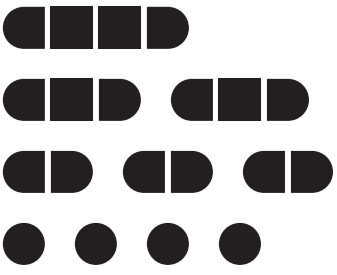
Each number to the right and bottom of the grid reveals the number of ship pieces that must be located in that row or column (including any that might be given for you).

The 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 ship piece appears (the number 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 the row is empty, enter '0'.

Example Answer: 1317171





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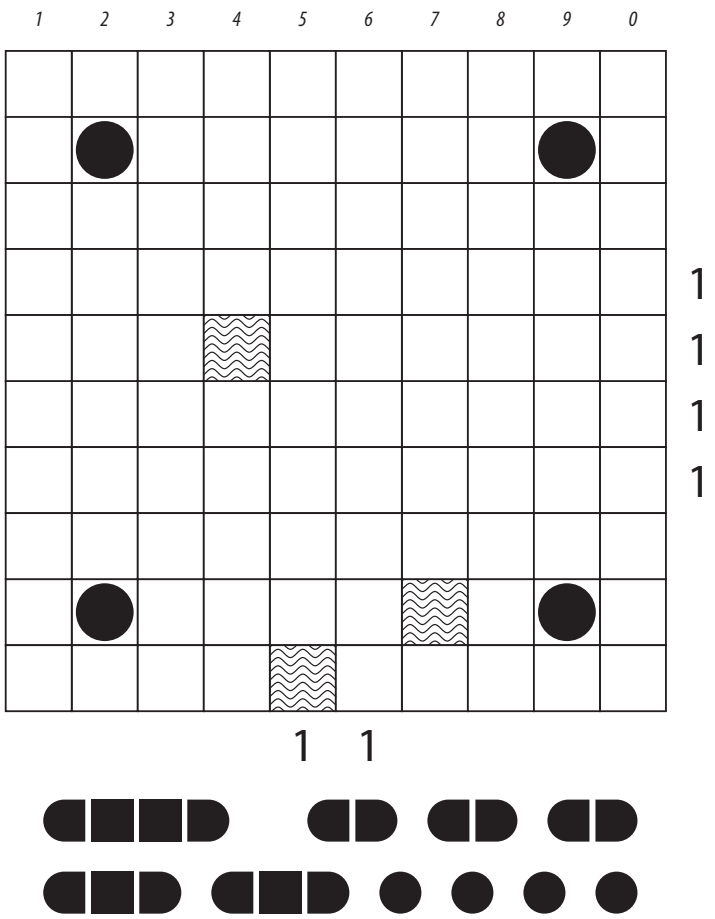

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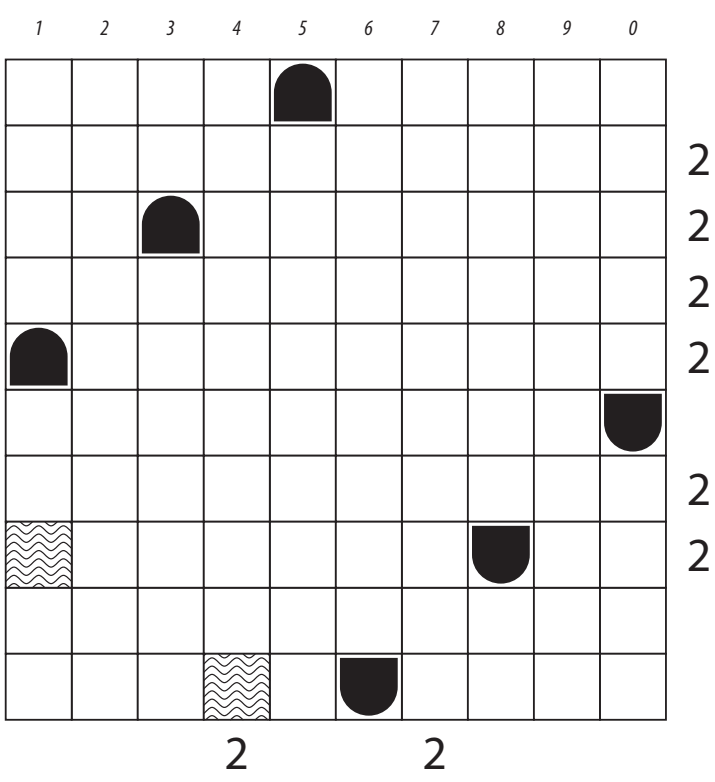
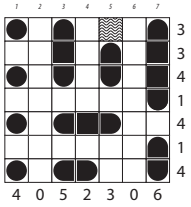
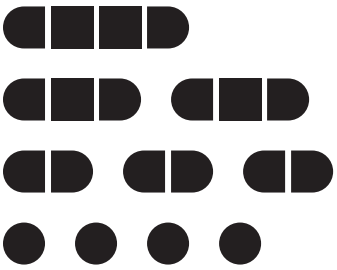


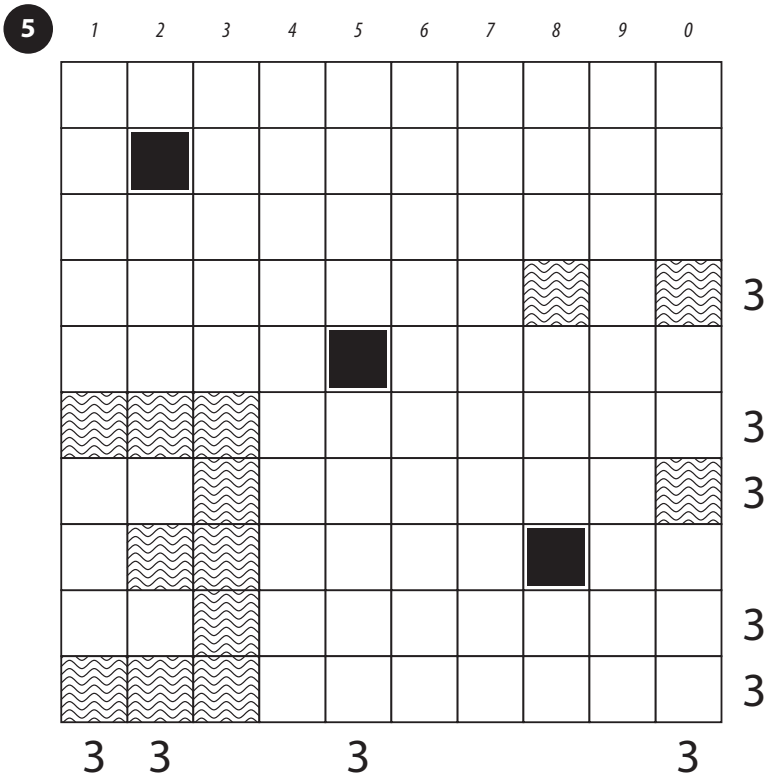
B5. Battleships [Nikola Živanović] (83 points)

Answer: For each row from top to bottom, enter the number of the first column from the left where a ship piece appears (the number 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 the row is empty, enter '0'.

Example Answer: 1317171

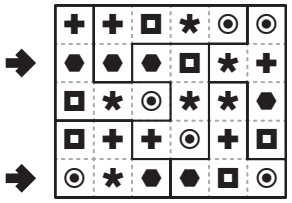






B6. Pentomino Division [Zoran Tanasić] (92 points)

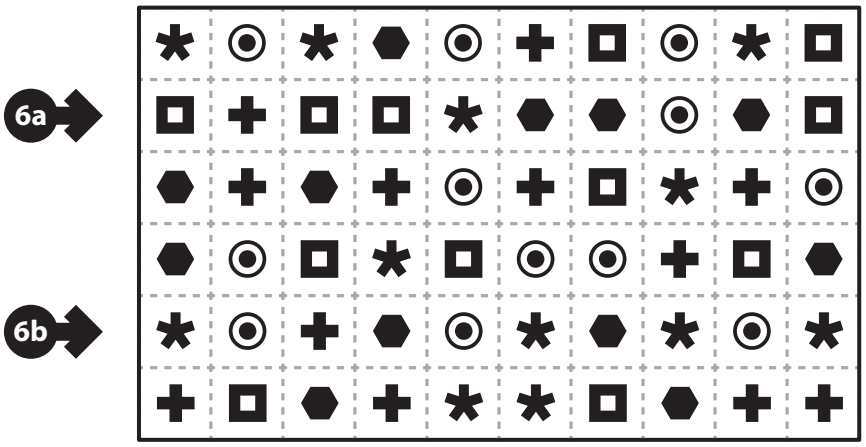
Each cell in the grid contains one of five different symbols. Divide the grid into pentominoes such that every cell in the grid is part of exactly one pentomino. You may not have more than one pentomino of the same shape (rotations and reflections of a pentomino count as the same shape). Each pentomino must contain five different symbols.

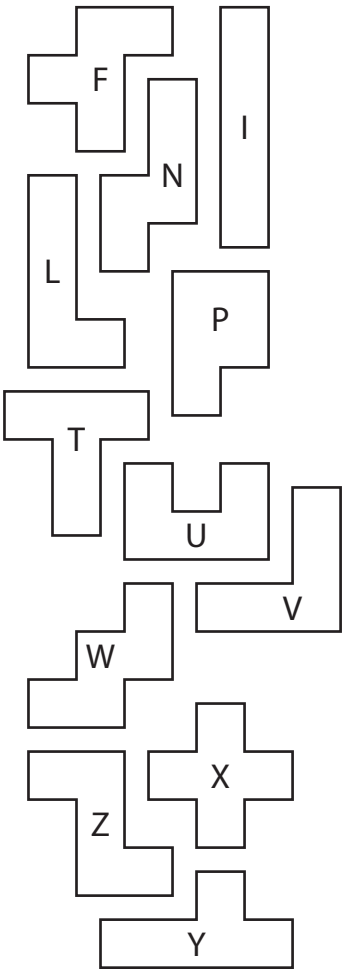


The letters for the shapes of the pentominoes are only used for entering your answer.

Answer: For each designated row, enter the letter for the pentomino that each cell belongs to, from left to right.

Example Answer: VLUUYY, PPPTTT

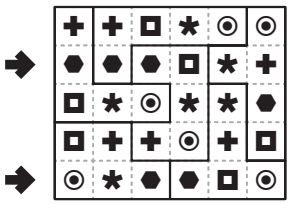


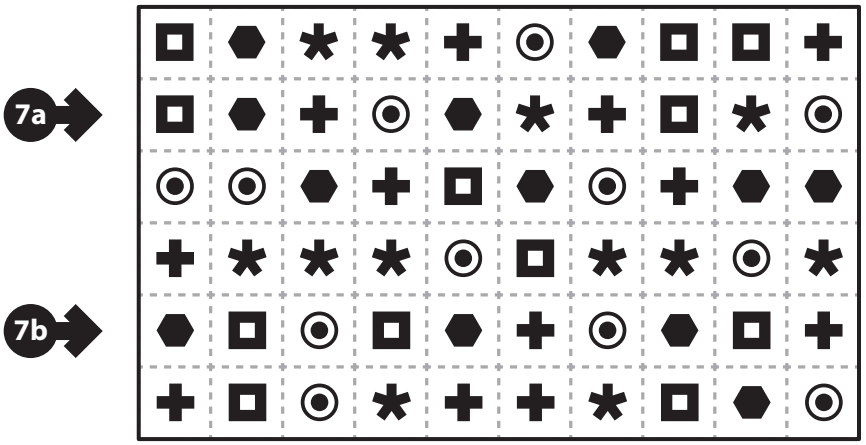


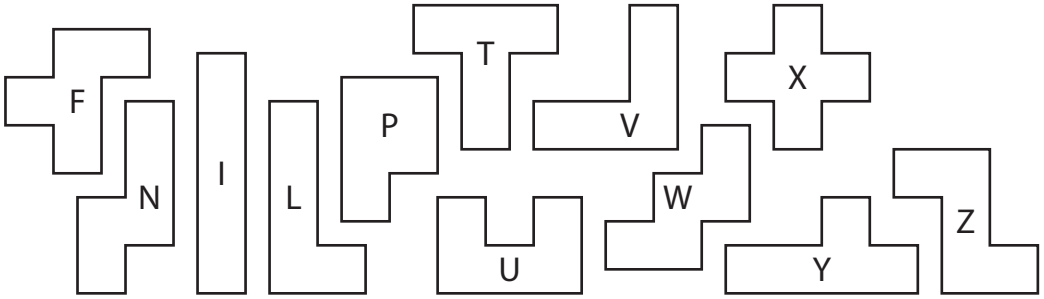
B7-8. Pentomino Division [Zoran Tanasić] (88, 80 points)

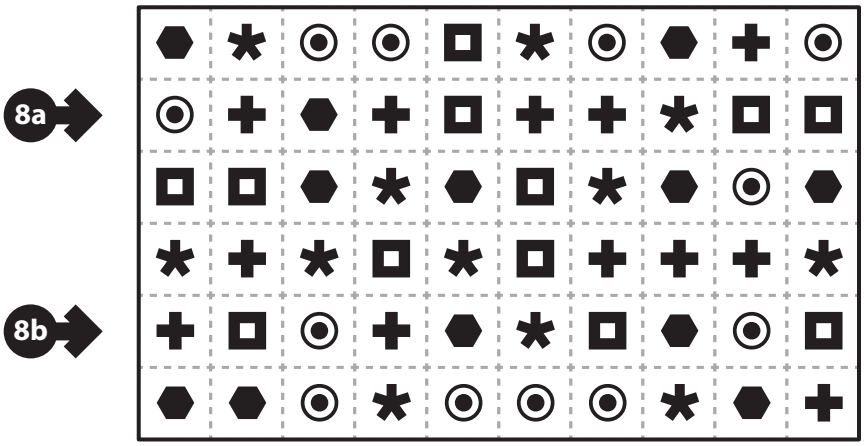
Answer: For each designated row, enter the letter for the pentomino that each cell belongs to, from left to right.

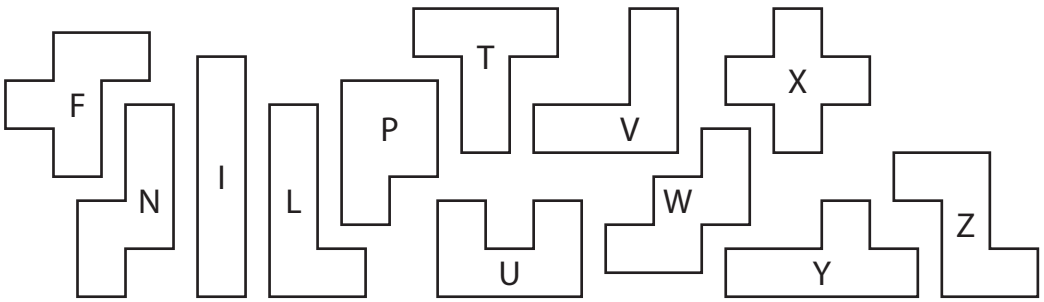
Example Answer: VLUUYY, PPPTTT











B9-10. Ripple Effect [Zoran Tanasić] (72, 58 points)

Place a number into each cell so that each bold region contains the numbers from 1 to *n*, where *n* is the number of cells in the region. Cells containing the same number *x* within the same row (or column) must have at least *x* cells between them in that row (or column). (For example, cells containing "1" cannot touch along an edge, cells containing "2" cannot touch or have exactly one cell between them in the same row or column, and so on.) Some numbers may be already filled in the grid.

Answer: For each designated row, enter its contents (including any given numbers).

Example Answer: 121314, 213241

1	2	1	3	1	4
3	1	2	4	3	2
4	3	5	1	2	3
2	1	3	2	4	1

9a

9b

	2	1				1	6	
								3
							1	
			2					
				1		6		

10a

10b

									5
				5					
	1	5							
	3								1

B11. All or One [Zoran Tanasić] (47 points)

Place a digit from 1 to 3 into each cell so that each bold region either contains all the same digit or all different digits. If two cells are separated by a bold region boundary, they must contain different digits. Some digits may already be filled in the grid.

Answer: For each designated row, enter its contents (including any given digits).

Example Answer: 323123, 122232

1	3	1	2	3	1
3	2	3	1	2	3
2	3	1	2	3	3
1	1	3	1	2	1
1	2	2	2	3	2

11a

11b

	1					1		3
1								
	3			1				
						1		
				1				
	1					3		
			1	2				
						2		
2								2