By Serkan Yürekli
26th - 27th November, 2011

Duration: 120 minutes + 10 minutes extra time

Penalty points: 12 points for each extra minute

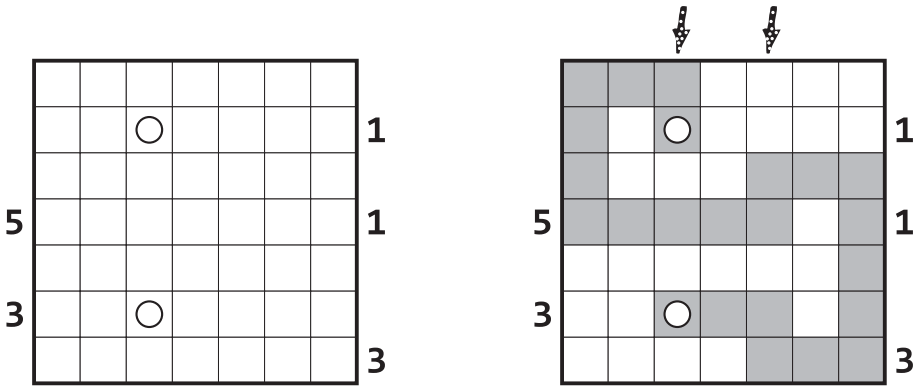
Time bonus: 8 points for each saved minute (If all puzzles are correctly solved)

Puzzle ideas: Stated next to each title.

See Logic Masters Deutschland e.V for the previous contest:

http://logic-masters.de/Meisterschaften/wettbewerb.php?id=15

1. FIRST SEEN SNAKE (33 POINTS) *Serkan Yürekli*
Locate a 45 cell long (23 for the example) snake in the grid, whose head and tail are given, without touching itself even at a point. Numbers outside the grid indicate the length of snake segments seen first towards the corresponding direction.



Answer Format: ***For each marked column, enter the number of cells in the longest continuous vertical group belonging to the snake in that column, starting from the left and continuing to the right. For the example would be: 22***

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2. FINNISH SNAKE (69 POINTS) *24 HPC*
Locate a 45 square long (15 for the example) snake in the grid, whose head and tail are given, without touching itself even at a point. All given circles must be part of the snake.

Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 31***

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3. SCHLANGE (91 POINTS) *LMD e.V*
Locate a 45 square long (25 for the example) snake in the grid, without touching itself even at a point. All cells occupied by the snake are numbered - starting with the head with the number 1. Then all numbers are encrypted with letters A - J. Numbers outside the grid indicate the amount of snake segments in the corresponding directions.

A			
B	C		
D	E	F	
G	H	I	J

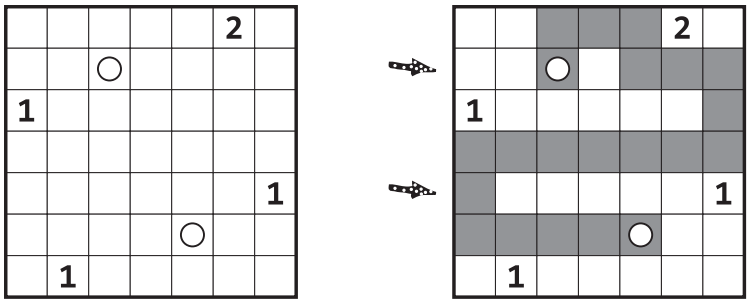
	A	I	G	I	A	E	A
A				E			
I	F						
C							
B		CC		GI			
G							
I				CD			GH
A							

	3	5	2	5	3	4	3
3				4	3	2	
5	8	7	6	5		1	
1	9						
6	10	11		25	24	23	22
2		12					21
5		13		17	18	19	20
3		14	15	16			

A	3		
B	6	C	1
D	7	E	4	F	8		
G	2	H	0	I	5	J	9

Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 44***

4. SLITHERLINK SNAKE (41 POINTS) *Vladimir Portugalov*
Draw a single 45-cells long 1 cell-wide snake, not touching itself even diagonally. Its head and tail are marked with circles. The snake cannot go through the numbered cells. Numbers show the amount of cells occupied by the snake in four neighbouring cells.



Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 31***

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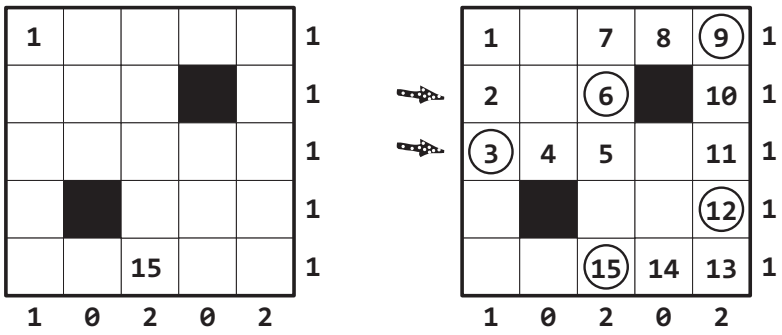
5. DOTTED SNAKE (52 POINTS) *24 HPC*
Locate a 45 square long snake in the grid, whose head and tail are given, without touching itself even at a point. Every third segment of the snake has a dot on itself. Numbers outside the grid indicate the amount of dots in the corresponding directions. The black cells are not a part of the snake.



Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 13***

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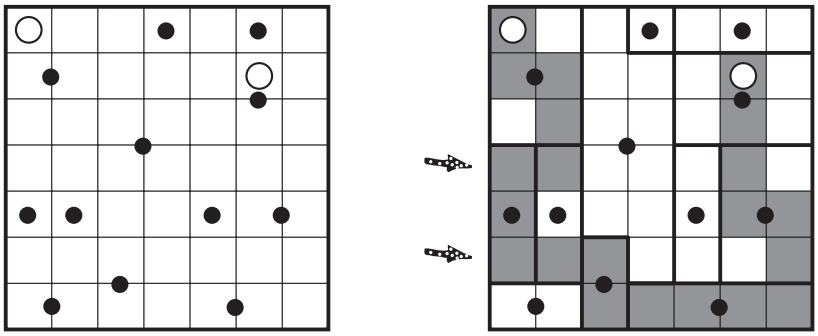
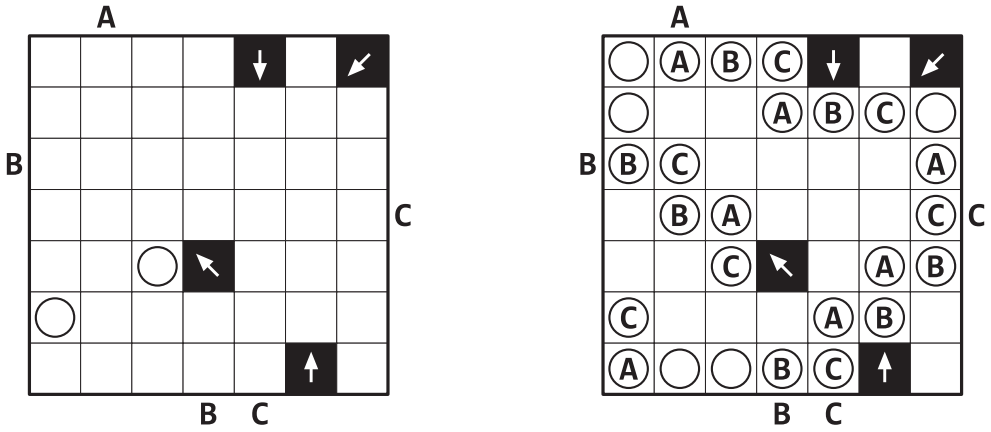
6. SPIRAL SNAKE (53/121 POINTS) *Vladimir Portugalov*
Locate a 45 square long (21 for the example) snake in the grid, whose head and tail are given, without touching itself even at a point. The grid should be divided into some areas with central symmetry, and all areas should be symmetrical with regard to the cells that are occupied/unoccupied by the snake. All the symmetry points of the regions are given as circles.



Answer Format - Partial Points: ***If you determine all the areas but cannot solve the snake, write the number of different areas in the marked rows from top to bottom. For the example would be: 56***

Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 23***

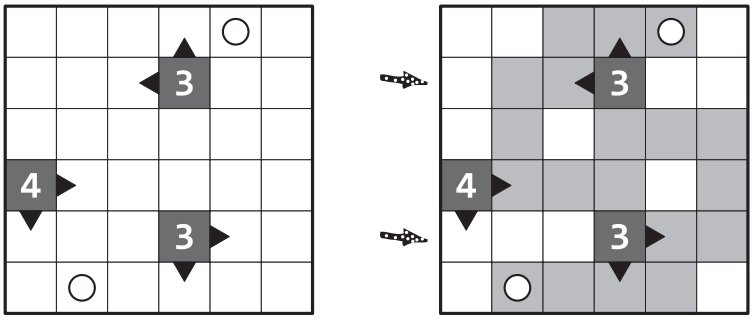
7. EASY AS SNAKE (83 POINTS) *Nikola Zivanovic*
Draw a snake with the length 45, moving horizontally or vertically, whose head and tail are given, without touching itself even diagonally. Each row/column should contain letters A, B, C on the snake. Letters outside the grid indicate the letters that appear first in that row/column. Each arrow points at exactly 3 segments of the snake. Snake cannot pass through the cells with arrows. The arrows do not block each other's view.



Answer Format: ***Write the middle letter for each row, from top to battom. For the example would be: BBCAAAB***

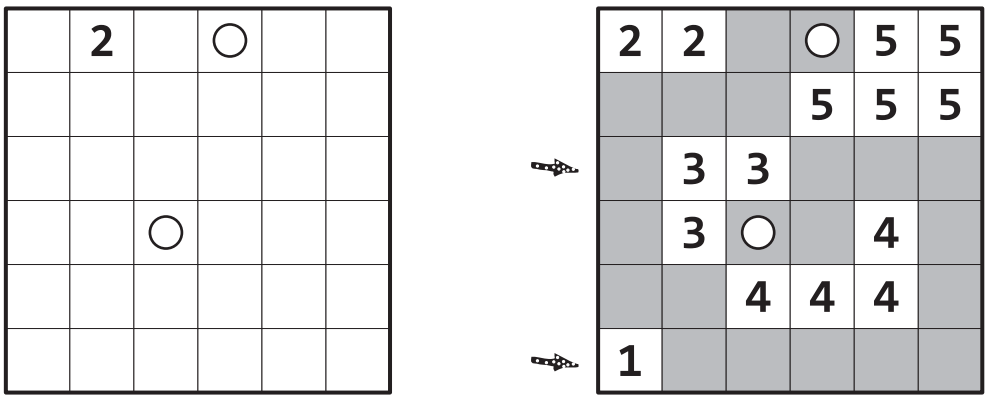
END OF THE 45-LENGTH SNAKES

8. SEA SERPENT (64 POINTS) *24 HPC*
A serpent is hiding in the grid. Its head and tail are given, marked with circles. The serpent can move only horizontally or vertically, and it may touch itself only diagonally. The given numbers show the total number of the fields where the serpent is present, but only towards the directions marked by arrows. The numbers do not block each other's view. The serpent does not pass through the numbers.



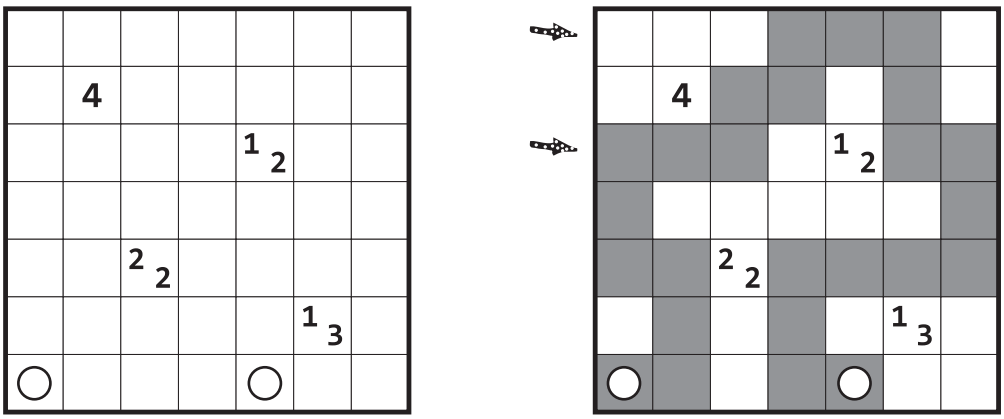
Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 22***

9. SNAKE EGG (62 POINTS) *Serkan Yürekli*
Locate a snake in the grid, whose head and tail are given, with touching itself only diagonally. The remaining cells should form nine separate areas (five for the example) with the sizes 1~9 each (1~5 for the example). Numbers in the grid indicate the size of the area including that cell.



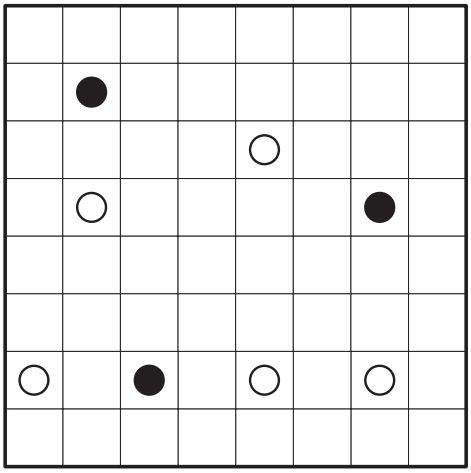
Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 35***

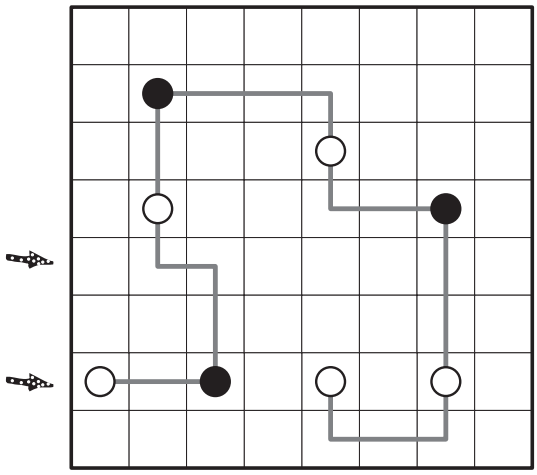
10. TAPA SNAKE (71 POINTS) *Serkan Yürekli*
Locate a snake in the grid, moving horizontally or vertically without touching itself even diagonally. The head and tail of the snake are given as circles. Clues inside the grid are regular Tapa clues, indicating the number of cells occupied by the snake.



Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 33***

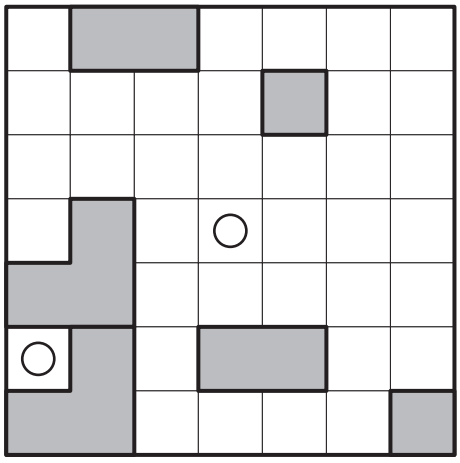
11. MASYU SNAKE (85 POINTS) *Nikoli*
Locate a snake in the grid, moving horizontally or vertically without touching itself, passing through all circles. Two of the given white circles are the head and tail of the snake. All movements should satisfy regular Masyu rules, except the head and the tail.

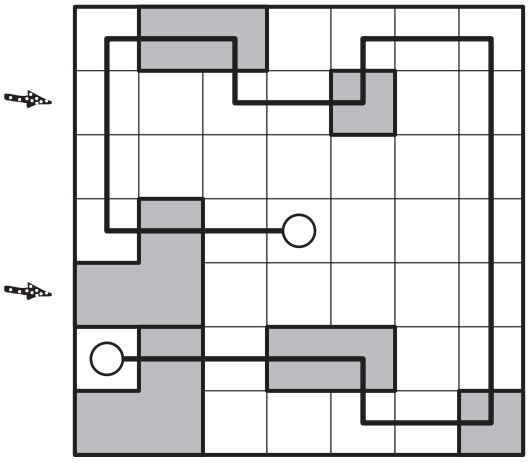




Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 23***

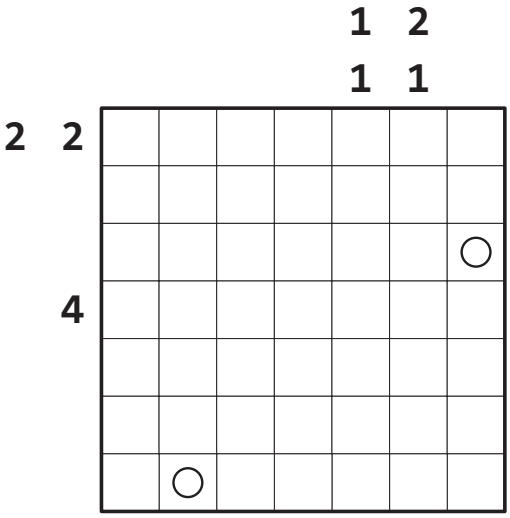
12. THE PERSISTENCE OF MEMORY (55 POINTS) *Serkan Yürekli*
Locate a snake in the grid that starts and ends in the cells which contain the black dots, that travels horizontally and vertically without touching itself at any point. All given highlighted regions contain parts of the snake. The regions having the same shape should have the same appearance with regard to the snake parts going through them, without any rotations. Note: All identical (same shape and same size) highlighted regions are oriented the same way in the puzzle grid.

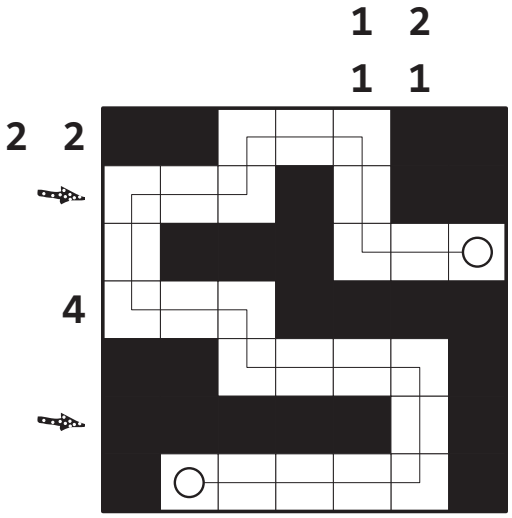




Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 31***

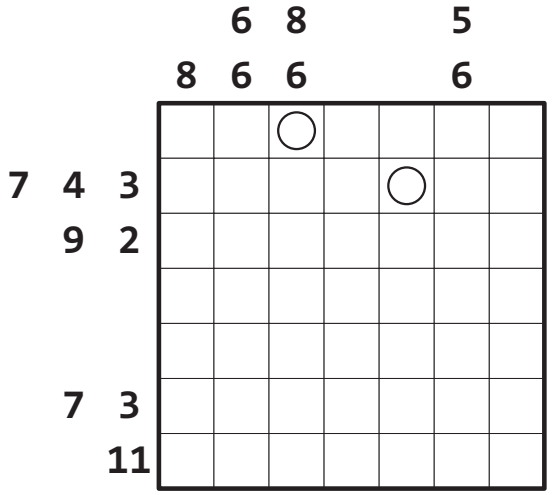
13. GRAFFITI SNAKE (98 POINTS) *Riad Khanmagomedov*
Paint some cells black to create walls. The numbers outside the grid indicate the lengths of blackened cell blocks in the corresponding directions, in order. If there is more than one blackened block in a row or column, there must be at least one white cell between the blocks. After all black cells are determined, a snake should travel through all the unoccupied cells, moving horizontally or vertically without touching itself. The head and the tail of the snake are given in circles.

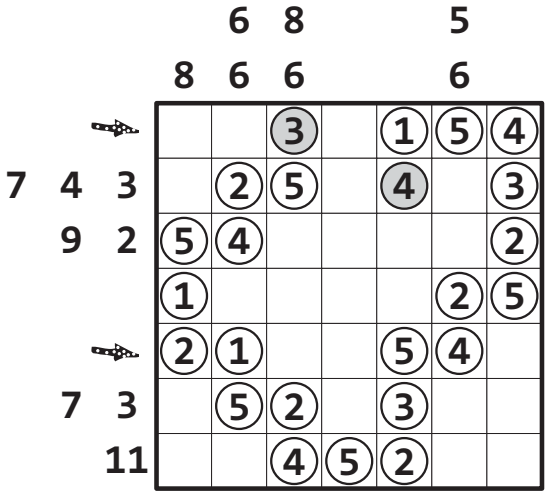




Answer Format: ***For each marked row, enter the number of cells in the longest continuous horizontal group belonging to the snake in that row, starting from the top and continuing to the bottom. For the example would be: 31***

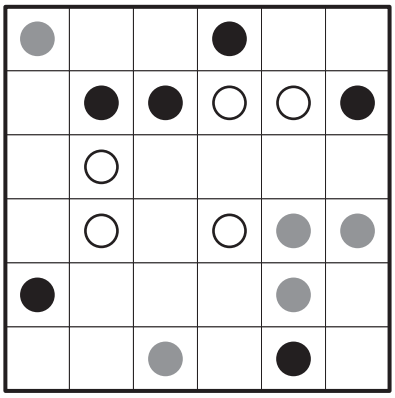
14. CALCULUSNAKE (123 POINTS) *Serkan Yürekli*
Draw a snake of digits in the grid, using digits 1-7 (for example 1-5). The snake travels horizontally or vertically, without touching itself even at a point. The clues outside the grid represent the sums of different digit groups in the corresponding directions. If there is more than one number in a clue, there must be at least one empty cell between the digit groups. No digit may be repeated within a row or column. Head and tail of the snake is given in circles. All digits should be on the snake.

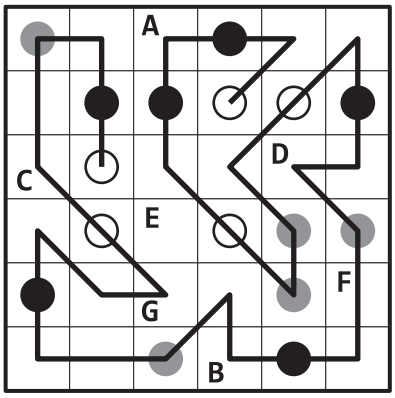




Answer Format: ***For each marked row, enter the content of the cells belonging to the snake in that row, starting from the top and continuing to the bottom. Ignore the empty cells and use a comma to separate number blocks. For the example would be: 3,154 and 21,54 (Note: Only in this puzzle, there will be two separate boxes for two different arrows)***

15. SERPENTINE (54 POINTS) *Riad Khanmagomedov*
Draw a serpentine that does not touch or intersect itself. The line goes through the centres of the cells and consists of horizontal, vertical or diagonal segments. The serpentine goes through all cells with "confetti" - circles of three colours. In the cells with black circles, the line moves vertically or horizontally. In the cells with white circles, it moves diagonally. And in the cells with grey circles, it makes turns of 45°, 90° or 135°. Serpentine's head and tail should be two of the given white circles, and the movement rules do not apply for those cells.

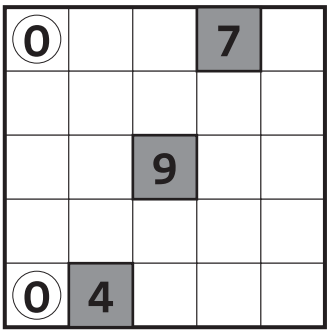


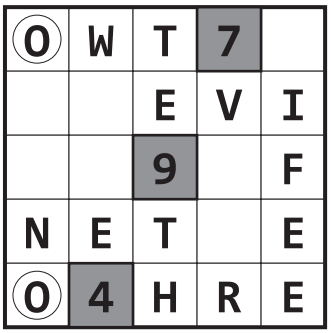


<u>Answer Format:</u> ***Enter the letters belonging to the snake from one end to the another. Both reversed answers will be considered as correct. For the example would be: ADFBGC or CGBFDA.***

16. SIGMA SNAKE (86 POINTS) *Serkan Yürekli*
Draw a snake of letters in the grid, whose head and tail are given in cirles and that doesn't touch itself, not even diagonally. Avoid grey cells with numbers. The snake must be formed only of the worded form of numbers (as written in the given word list) in any order, starting from the head, moving along adjacent squares and ending on the tail (and NOT the opposite). A number on a grey cell gives the total value of the worded numbers that pass through its neighbouring cells, including the diagonal neighbours. You don't need to use all the words but you can use each word only once.

1- ONE
2- TWO
3- THREE
4- FOUR
5- FIVE





<u>Answer Format:</u> ***Enter the numbers in order from the head to the tail of the snake. For the example would be: 1352***