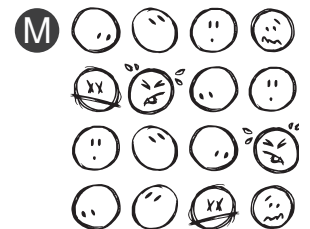
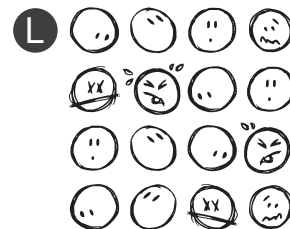
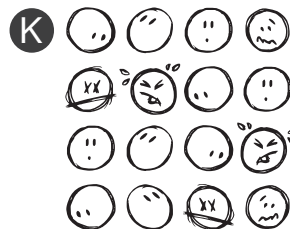
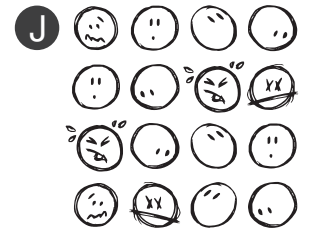
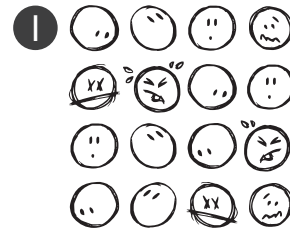
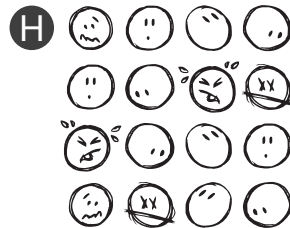


- A** 1-2
- B** 1-3
- C** 1-4
- D** 2-3
- E** 2-4
- F** 3-4
- G** None

Mirror Image



Original Image



Odd One Out

- N**  $71 = (14/7)+15+16+18+20$
- Q**  $71 = 14+15+16+(18/3)+20$
- O**  $71 = 14+(15/5)+16+18+20$
- R**  $71 = 14+15+16+18+(20/2)$
- P**  $71 = 14+15+(16/4)+18+20$

**Answer Key:** Enter the letters corresponding to correct solutions.

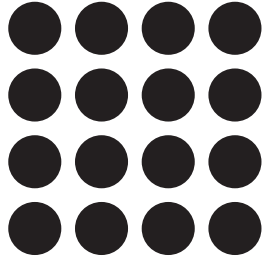




Locate the given fleet in the grid, so that each segment of a ship occupies a single cell. Ships do not touch each other, not even diagonally.

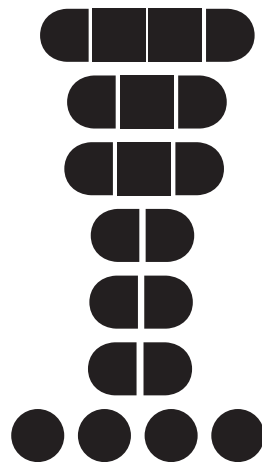
Some ship segments, or sea cells without any ship segments, are given in the grid.

The numbers on the right and bottom edges of the grid reveal the number of ship segments in that row or column.



**Answer Key:** For each row from top to bottom, enter the column position of left most ship segment. Enter X if no ships.

	A	B	C	D	E	F	G	H	I	
										3
										1
										2
										1
										3
										3
										2
										1
										3
	1		1	1	1		2	1	3	



	A	B	C	D	E	F	G	H	I	
										2
										3
										3
										3
										2
										1
	1		2	4		2				



Place a digit from 1 to N in each cell of the N by N grid. Digits do not repeat in rows or columns or outlined regions.

**Answer key: Enter the digits in the marked directions.**

The grid is a 9x9 grid with 3x3 sub-grids. The pre-filled numbers are as follows:

				4	1	5		
				5		2		
4	8							
8								
1	9						3	8
								4
							7	1
		3		6				
		6	5	9				

Direction 'A' is marked with an arrow pointing to the second cell of the fourth row. Direction 'B' is marked with an arrow pointing to the top of the fourth column.

Apply rules of “E1 – Sudoku”. Digits inside the grid represent height of skyscraper in that cell. Digits outside the grid represent total number of skyscrapers seen (not blocked by a taller skyscraper) from the corresponding direction.

**Answer key: Enter the digits in the marked directions, excluding outside clues.**

The grid is a 6x6 grid with 2x3 sub-grids. The pre-filled numbers are as follows:

			3		
3				3	
					3
3					
	3				

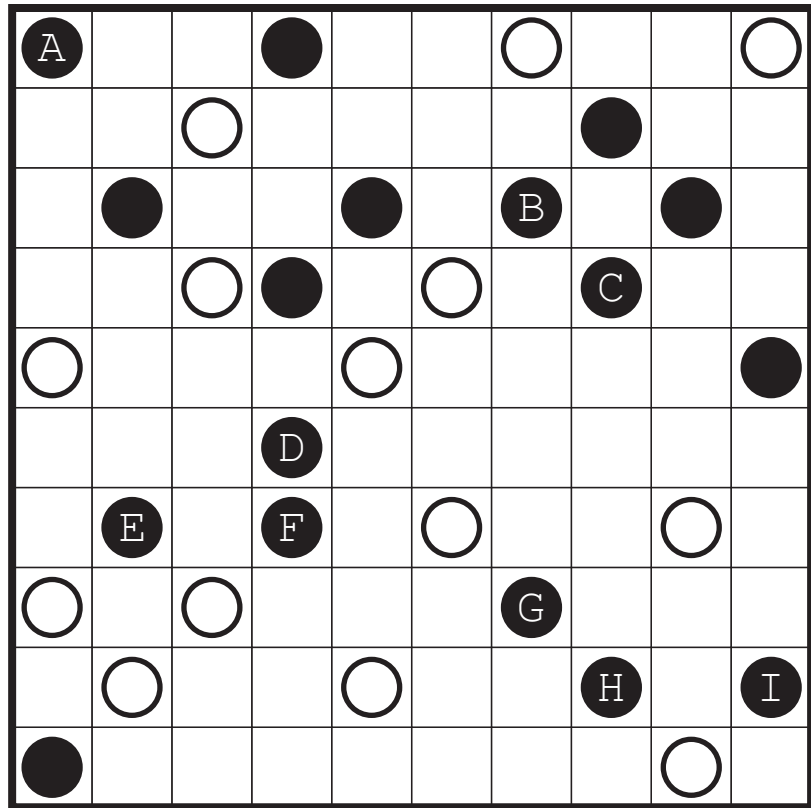
Clues outside the grid are: 3 above the top-right cell, 3 to the left of the second row, 3 to the left of the fourth row, 3 to the right of the fourth row, 3 below the bottom-left cell, and 3 below the bottom-right cell. Direction 'A' is marked with an arrow pointing to the second cell of the fourth row. Direction 'B' is marked with an arrow pointing to the top of the fourth column.

Draw a loop which passes all cells exactly once.

Between two circles with same colour the loop cannot turn.

Between 2 circles with different colours, the loop must turn exactly once.

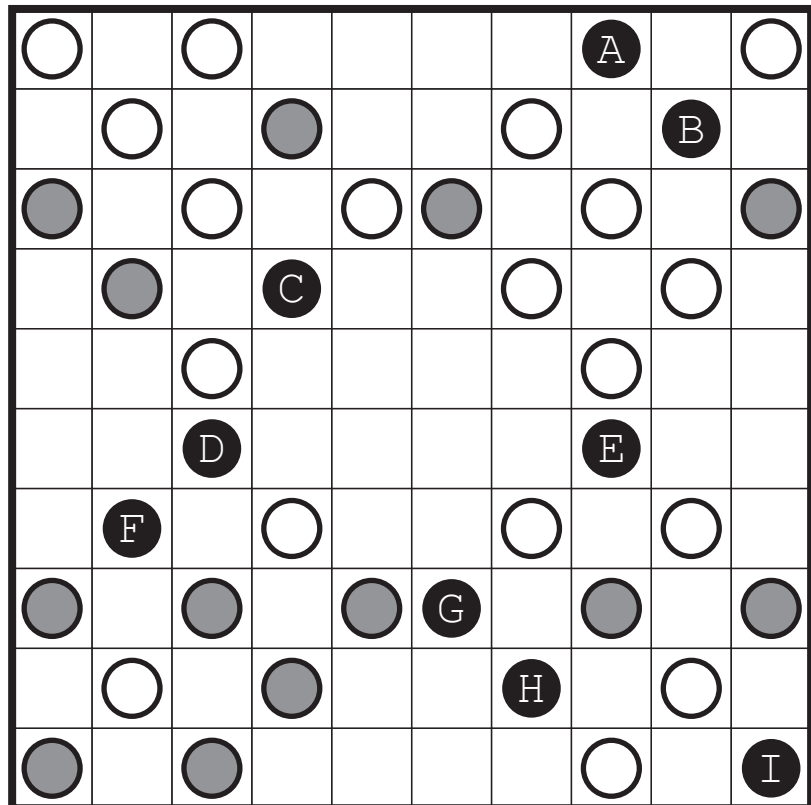
**Answer key: Starting with A and traveling clockwise around the loop, enter the order the letters are visited.**



Apply rules of “F1 – Black & White Loop”, except that some circles are grey.

Each grey circle can act as either a white circle or a black circle or both.

**Answer key: Starting with A and traveling clockwise around the loop, enter the order the letters are visited.**



Place a digit from 1 to 9 in each white cell  
 Sum of each horizontal/vertical group of cells equals the number given on its left/top.  
 Digits must not repeat within such group.  
 Ignore the circles while solving. They are used for answer key purposes only.

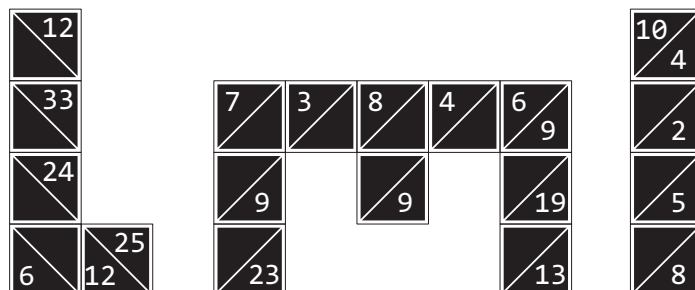
**Answer key: Some columns have one circled cell. Enter the digits in circled cells from left to right.**

			6	6		9	8	29	
					○				
10		○			30				
			7	9			7		
14							8		
19						16			
		13			14				
		11			12				30
15									○
						11			
10			23				15		
			12				15		
11					26				
	○								

Place the given pieces into the white cells to form a Kakuro puzzle.  
 The pieces may be rotated, but not mirrored.  
 The pieces cannot touch each other, not even diagonally.

**Answer key: Some columns have one circled cell. Enter the digits in circled cells from left to right. Same as G1 – Kakuro. Enter X if any of the given piece is placed on a cell.**

	45	7	10	41		9	8	5	45
45									
4				○					
7									
3					○				
9									
23									
6								○	
45							○		





Locate all except 4 (four) given words in the grid. The words appear in a straight line horizontally, vertically, or diagonally. Ignore the labels while solving. They are used for answer key.

●	●	○	○	●	○	○
○	○	●	○	○	○	●
●	○	●	●	●	○	○
●	○	●	●	○	●	●
●	○	●	○	●	●	○
○	○	○	○	●	●	●
○	●	○	●	○	○	○

**Answer key: Enter the labels of the missing words.**

- A: ○ ● ● ○ ○ ●
- B: ○ ○ ● ○ ○ ●
- C: ● ● ● ○ ● ●
- D: ○ ○ ○ ○ ● ●
- E: ● ● ● ● ○ ●
- F: ○ ● ● ○ ● ●
- G: ● ○ ○ ● ○ ●
- H: ○ ○ ○ ● ○ ○
- I: ○ ○ ● ○ ● ●
- J: ● ● ○ ○ ● ○
- K: ● ○ ○ ○ ● ○
- L: ● ○ ● ● ○ ○
- M: ○ ○ ○ ● ○ ●
- N: ○ ○ ● ● ○ ●

Locate all the given words in the grid. The words appear in a straight line horizontally, vertically, or diagonally. It is part of solving to fill in the missing letters in the grid.

L	E	A	D	E	R	I	S	S	U	E
M	A	G	A	Z	I	N	E	G	Y	B
D		B	L	E	C	T	U	R	E	E
Z		E	Y	M	U	M	A	I	X	L
I		O	L						A	A
M			O		I		L		M	B
P	O	R	A		M	N	M		O	
U	M	Y	A		U	A	T		V	
L	E	M	O	N	E	I	G	H	N	
S	I	D	E	O	L	O	G	Y	Y	
E	M	E	G	A	D	E	A	T	H	E

**Answer key: For each row from top to bottom, write the missing letters.**

- LABYRINTH    LABORITE    LECTURE    LEADER    LEMON    LUXE
- MEGADEATH    MAGAZINE    MYELOMA    MADMEN    MINOR    MAZE
- IMAGINARY    IDEOLOGY    IMPULSE    INCOME    ISSUE    ITEM





Place a tent horizontally or vertically next to each tree.

Tents connected to different trees do not touch each other, not even diagonally.

Numbers outside the grid indicate the number of tents in that row or column.

**Answer Key:** For each row from top to bottom, enter the number tents connected horizontally to the trees.

				🌴						3
	🌴				🌴				🌴	1
			🌴				🌴			3
		🌴			🌴			🌴		1
🌴						🌴				3
			🌴						🌴	1
				🌴						3
🌴			🌴				🌴			1
						🌴				3
		🌴							🌴	1
1	3	1	3	1	3	1	3	1	3	

Same rules as “K1 – Tents” except that a tree can have more than one tent connected to it.

Tents connected to same tree can touch each other diagonally.

**Answer Key:** For each row from top to bottom, enter the number tents connected horizontally to the trees.

					🌴				🌴	2
	🌴									3
						🌴				3
		🌴								3
🌴		🌴							🌴	2
					🌴		🌴	🌴		3
			🌴							2
						🌴				3
	🌴	🌴								2
					🌴				🌴	3
3	2	3	2	3	3	3	2	3	2	

Shade some blank cells so that the grid is divided into white regions.

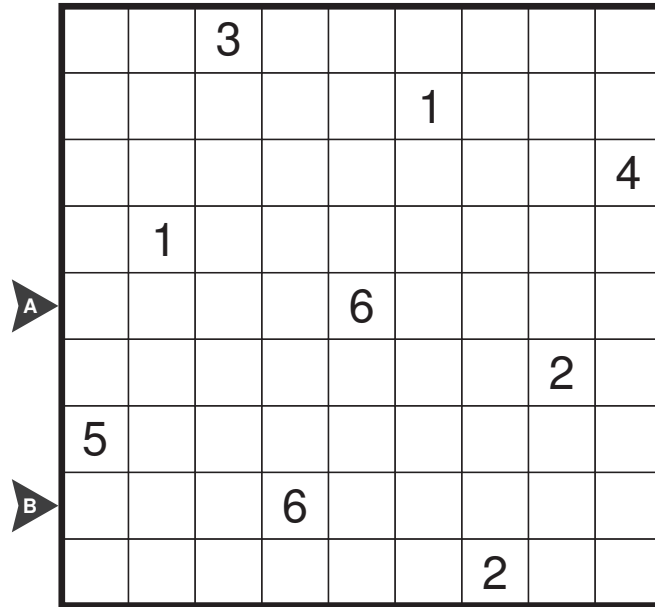
Each white region contains exactly one numbered cell and has same area as the number.

Two white regions may only touch each other diagonally.

All shaded cells are connected to each other horizontally or vertically.

Shaded cells do not form 2X2 squares.

**Answer Key:** Enter the lengths of separate painted cell blocks in the marked directions.



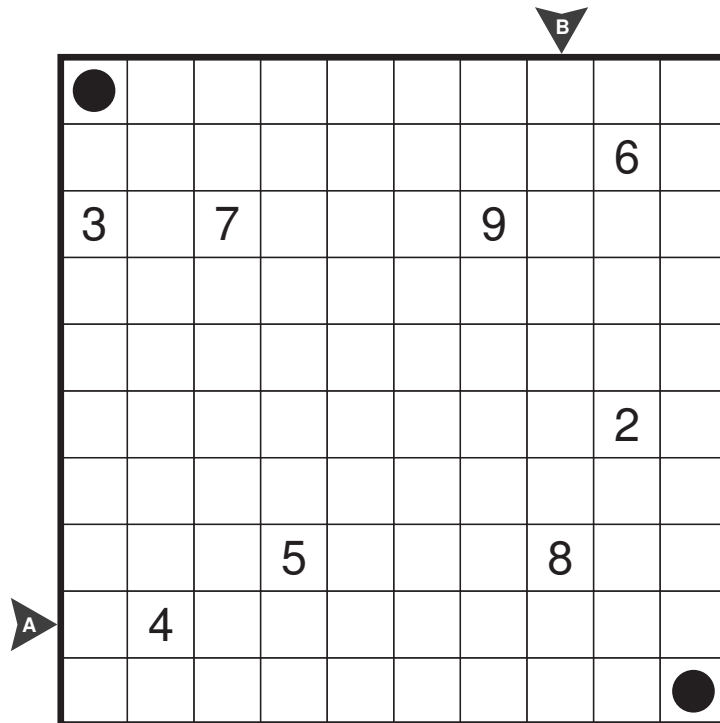
Locate a snake, passing through non-numbered cells, whose head and tail are given.

The snake cannot touch itself orthogonally, but can touch itself diagonally.

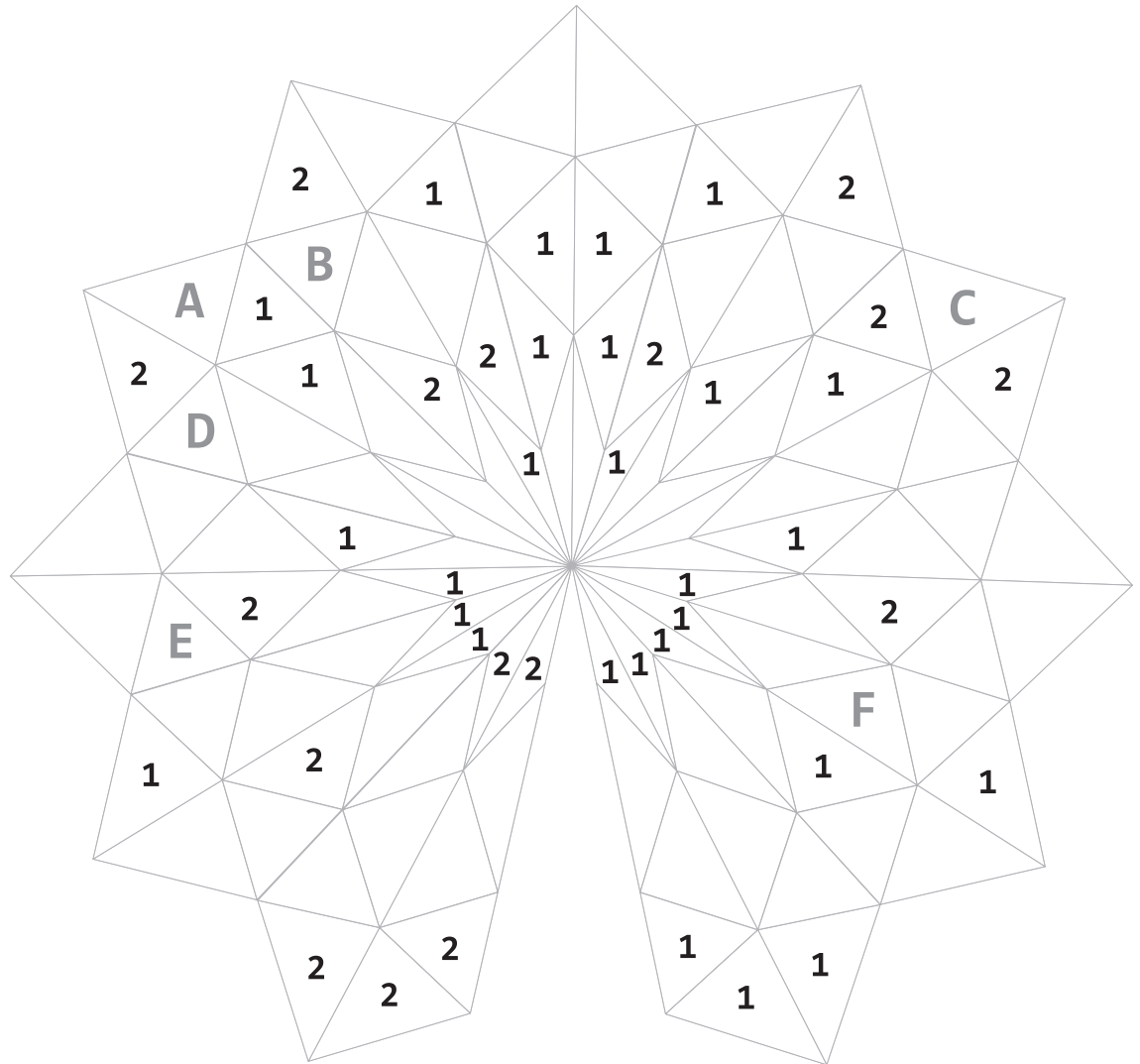
The remaining cells should form 9 separate regions with sizes 1~9 each.

Numbers in the grid indicate size of the region.

**Answer Key:** Enter the lengths of separate blocks belonging to the snake in the marked directions.

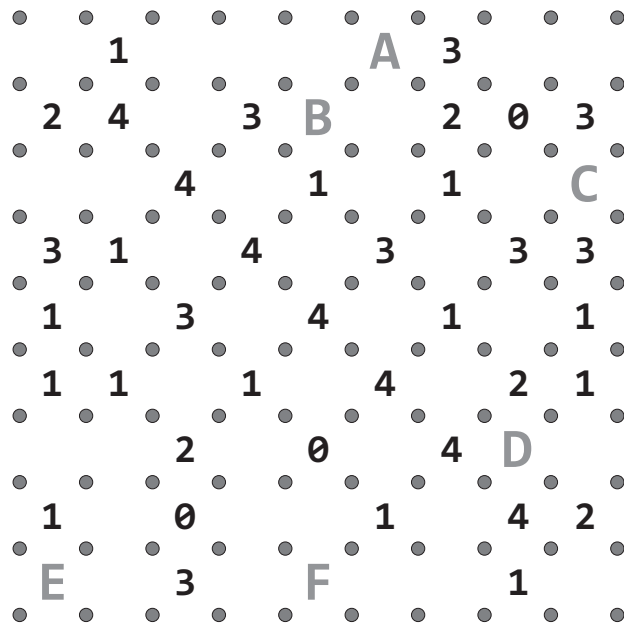


Draw a single continuous loop along the dotted line segments. The loop cannot intersect or collide with itself. Clues given inside the cell indicate the count of line segments surrounding the cell those are part of the loop. Ignore the letters while solving. They are used for answer key purpose.



**Answer Key:** Starting from A, for each letter in alphabetical order, enter the number of line segments around it.

Apply same rules as “M1 – Slitherlink” except that the loop may intersect itself at a point. At every intersection, the segments travel straight through the dot.



**Answer Key:** Starting from A, for each letter in alphabetical order, enter the number of line segments around it.