Indian Puzzle Championship 2012

03-Jun-2012

http://logicmastersindia.com/IPC2012/

Puzzle	Classic	Variant
As Easy As ABC	30	25
Slitherlink	25	50
Kakuro	20	40
Loop Finder	25	65
Hitori	15	40
Masyu	45	25
Tapa	30	35
Sudoku	30	45
Skyscraper	30	45
TomTom	30	50
Snake	35	40
Square Division	10	10
Mastermind	5	30
Star Battle	20	80
Battleships	25	45
Total Points	**375**	**625**

Acknowledgements

Logic Masters India thanks the following puzzle solvers and makers for helping us organize Indian Puzzle Championship 2012.

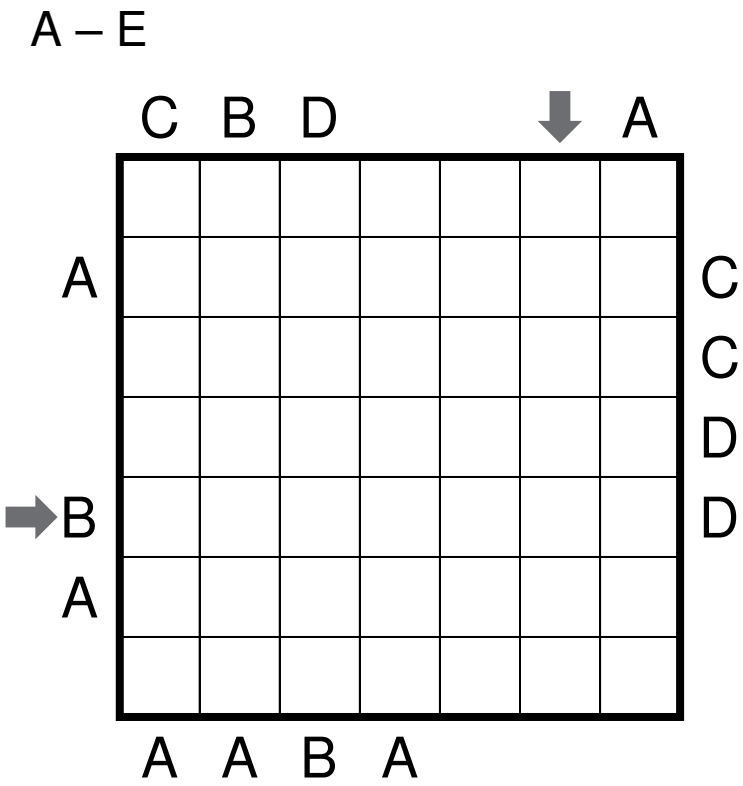
Branko Ceranic
Nikola Zivanovic (http://logika-nikola.blogspot.com)
Palmer Mebane (http://mellowmelon.wordpress.com)
Serkan Yurekli (http://yureklis.wordpress.com)
Thomas Snyder (http://motris.livejournal.com)

A1 – As Easy As ABC (Deb Mohanty) *30 points*

Enter the letters from the given range, so that each letter exactly once in all the rows and columns.

Some cells will remain empty in each row and column.

The letters outside the grid show which letter you come across first from that direction.

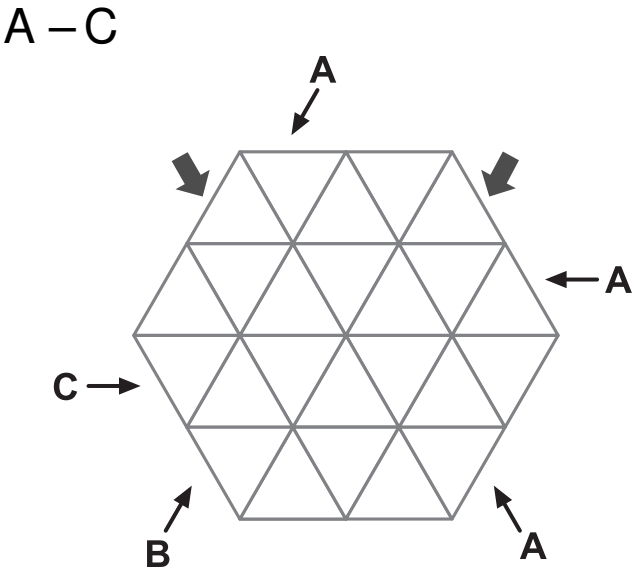


Answer Key: Enter the alphabets in the marked directions. Enter X for blank cells.

A2 – As Easy As ABC (Serkan Yurekli) *25 points*

Same rules as "A1 - *As Easy As ABC"*, except that triangles are used.

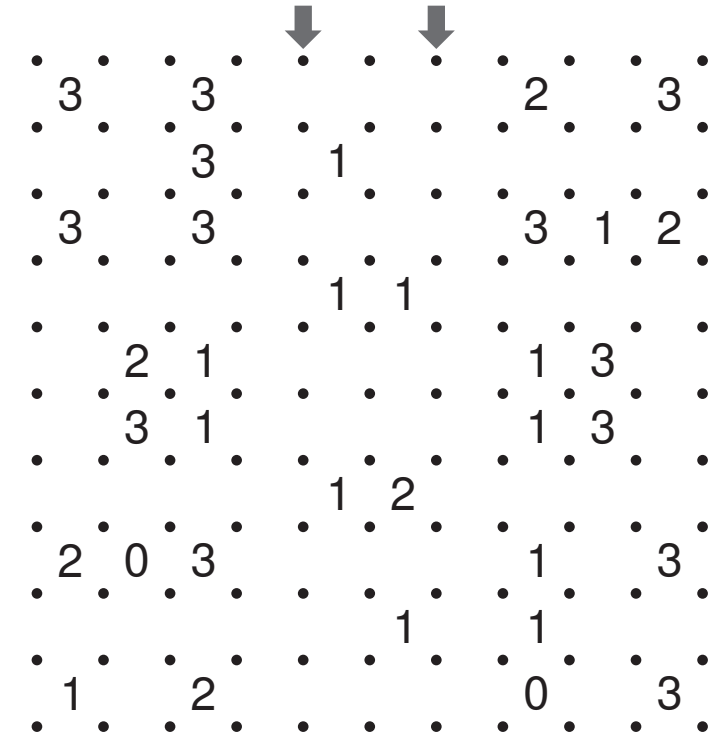
Letters appear exactly once in all the diagonals.



Answer Key: Enter the alphabets in the marked directions. Enter X for blank cells.

B1 – Slitherlink (Palmer Mebane) *25 points*

Draw a single continuous loop along the dotted vertical or horizontal line segments. Crossovers or branches are not allowed.
Clues given inside the cell indicate the count of line segments surrounding that cell those are part of the loop.

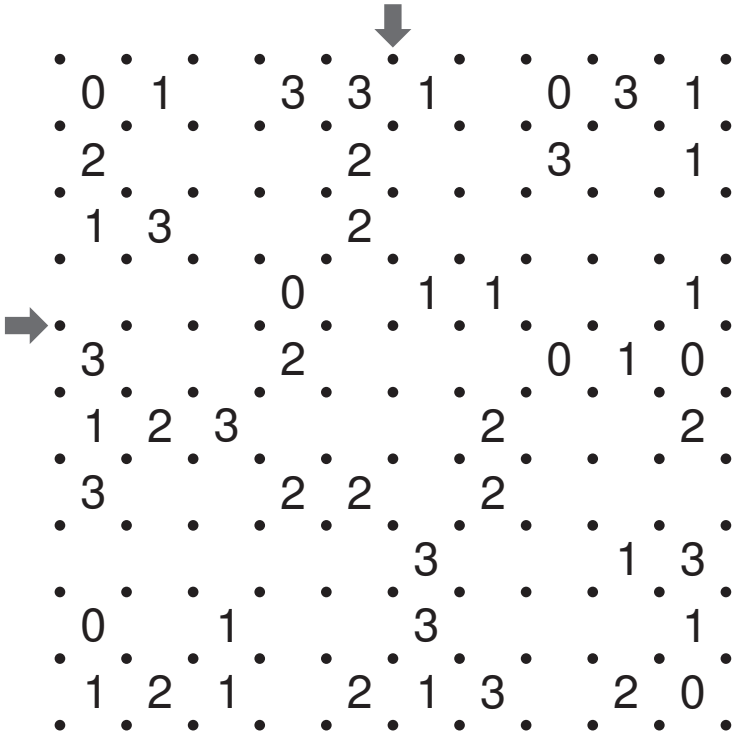


Answer Key: Enter the lengths of line segments in the marked directions.

B2 – Liar Slitherlink (Palmer Mebane) *50 points*

Same rules as B1 – Slitherlink.

But exactly one clue in each row and each column is false. It is part of solving to determine the liar clues.

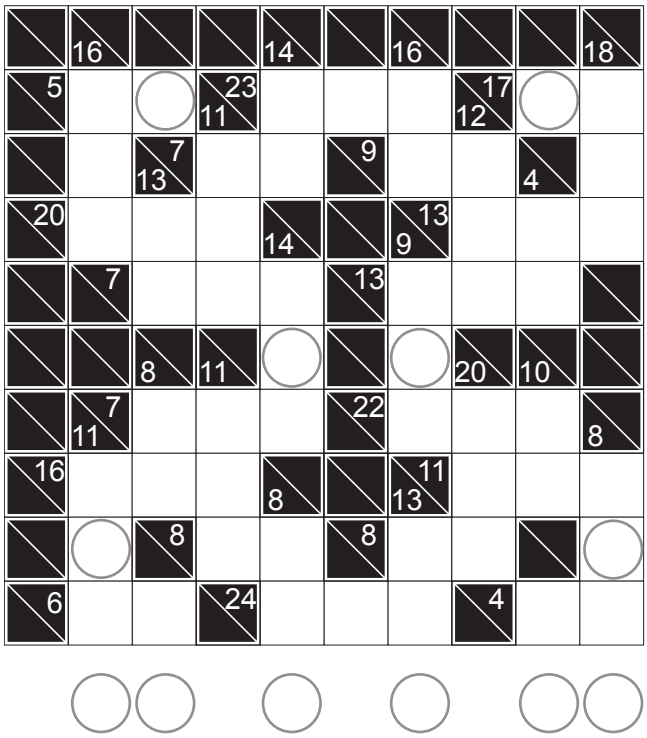


Answer Key: Enter the lengths of line segments in the marked directions.

C1 – Kakuro (Serkan Yurekli) *20 points*

Place a digit from 1 to 9 in each cell so that the sum of each horizontal/vertical group of cells equals the number given on its left/top. Digits must not repeat within any sum.

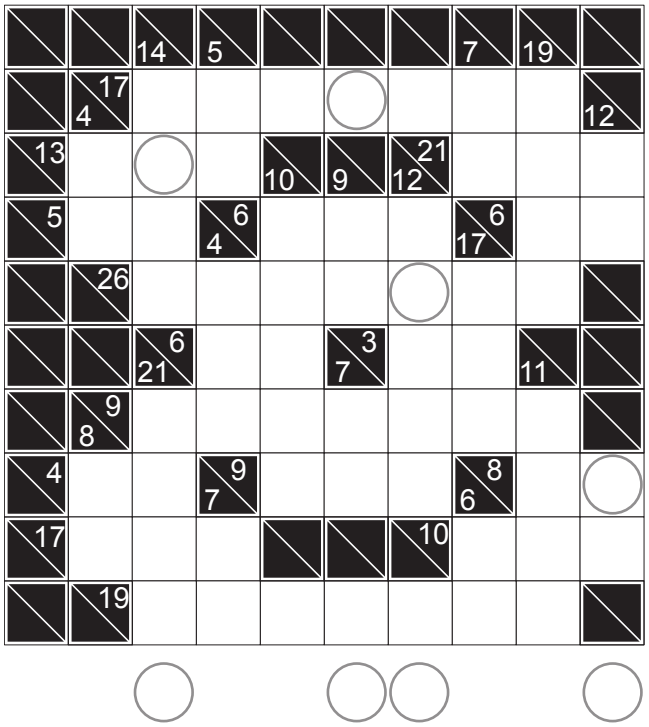
(Ignore the circles while solving. They are used for answer key purposes only.)



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

C2 – Gapped Kakuro (Serkan Yurekli) *40 points*

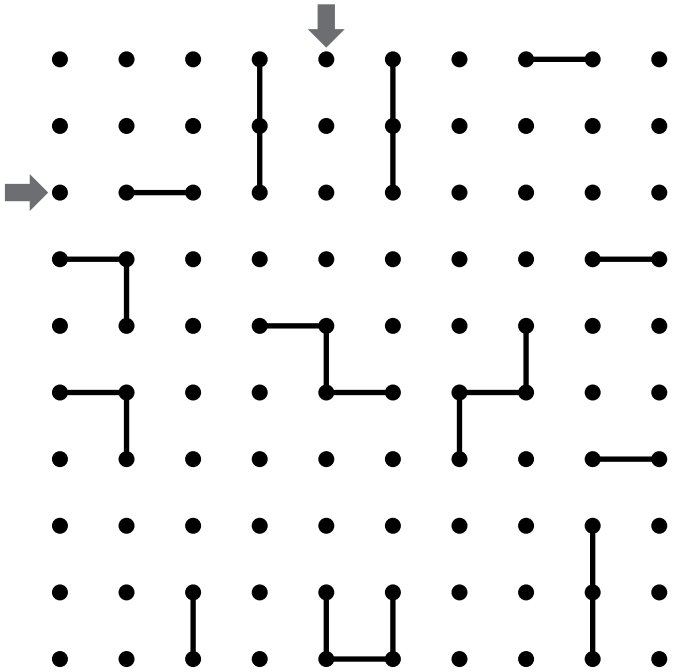
Same rules as C1 – Kakuro. But some cells may remain blank in this puzzle. Also, blank cells cannot be orthogonally adjacent to each other.



Answer Key: Some columns have one circled cell. Enter the digits in circled cells from left to right. Enter "X" if cell is blank.

D1 - Loop Finder (Deb Mohanty) *25 points*

Draw a single continuous loop that visits all dots. The loop has only horizontal and vertical line segments. Some line segments are already drawn.

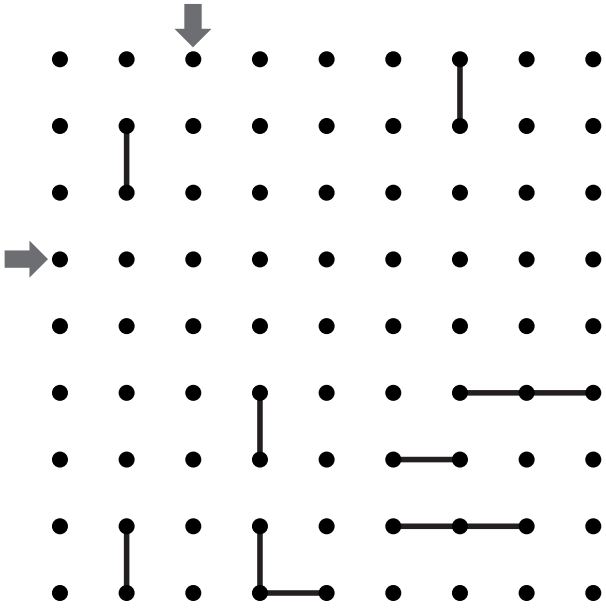


Answer Key: Enter the lengths of line segments in the marked directions.

D2 – Around the Black (Deb Mohanty) *65 points*

Same rules as D1 – Loop Finder.

But exactly, one dot in each row and each column is not visited by the loop.



Answer Key: Enter the lengths of line segments in the marked directions.

E1 - Hitori (Deb Mohanty) *15 points*

Shade some of the digits in the grid so that each row and each column contains distinct digits in remaining cells.
Shaded cells must not touch each other horizontally or vertically.
It must be possible to visit any white cell from another white cell using horizontal or vertical paths.

↓	↓	↓	↓	↓	↓
7	4	5	6	1	7
4	3	6	2	1	5
1	3	5	2	3	1
2	6	7	3	7	4
7	1	3	5	2	3
6	1	4	4	6	3

Answer key: Enter the number of black cells in each column, starting from left to right

E2 – Hitori Row Sum (Deb Mohanty) *40 points*

Same rules as E1 – Hitori.

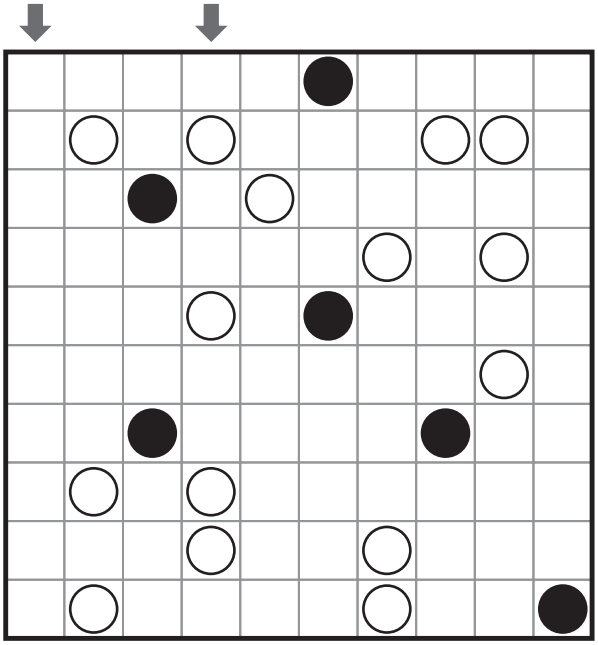
Additionally, the sum of digits in shaded cells must be same for each row.

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

Answer key: Enter the number of black cells in each column, starting from left to right

F1 – Masyu (Palmer Mebane) — *45 points*

Draw a single closed loop using horizontal and vertical segments. It does not cross or overlap itself, and it may not visit all cells.
The loop makes 90° turn at every cell with a black circle, but does not make a turn immediately before or after.
The loop goes straight at every cell with a white circle, but makes a 90° turn immediately before or after or both.

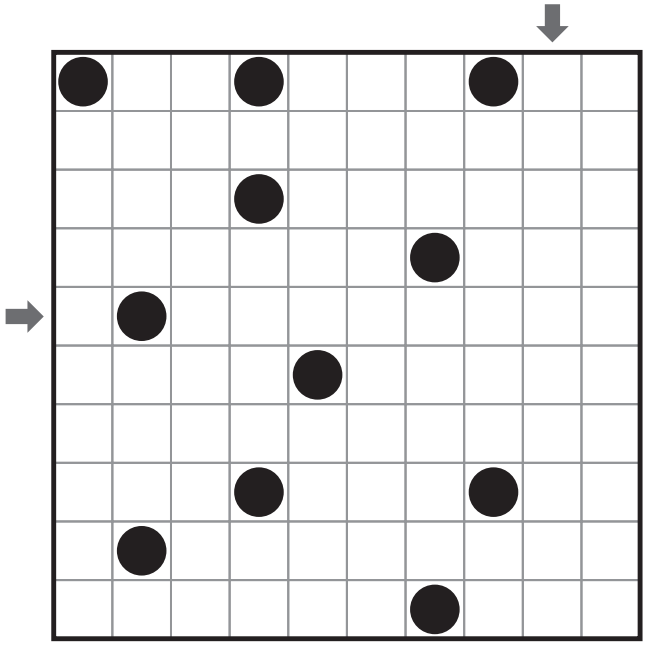


Answer Key: Enter the lengths of line segments in the marked directions.

F2 – Masyu No Touch (Palmer Mebane) — *25 points*

Same rules as F1 – Masyu.

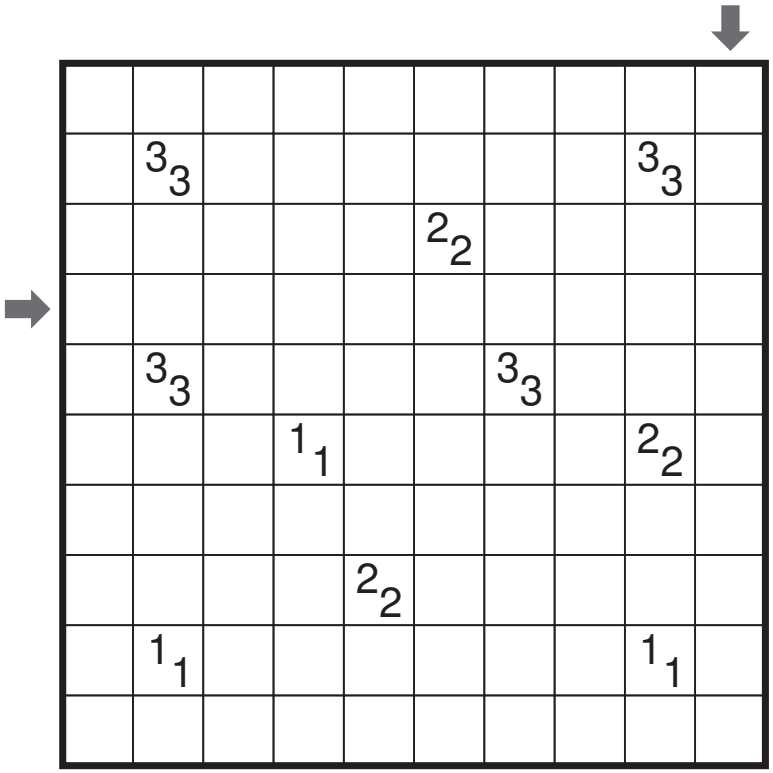
Additionally, cells unvisited by the loop cannot be orthogonally adjacent to each other.



Answer Key: Enter the lengths of line segments in the marked directions.

G1 – Tapa (Palmer Mebane) — *30 points*

Paint some empty cells black to create a continuous wall. Number/s in a cell indicate the length of black blocks on its neighbouring cells.
If a cell has more than one number, there must be at least one white cell between the black blocks.
No 2X2 square can contain only painted cells.

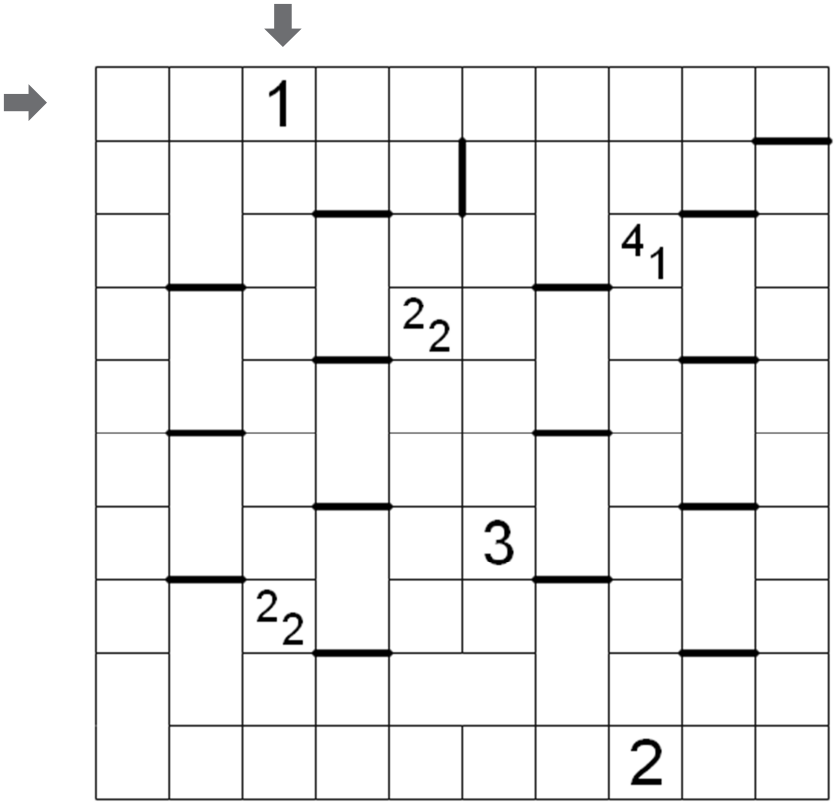


Answer Key: Enter the lengths of separate blackened cell blocks in the marked directions.

G2 – Tapa Borders (Palmer Mebane) — *35 points*

Same rules as G1 – Tapa.

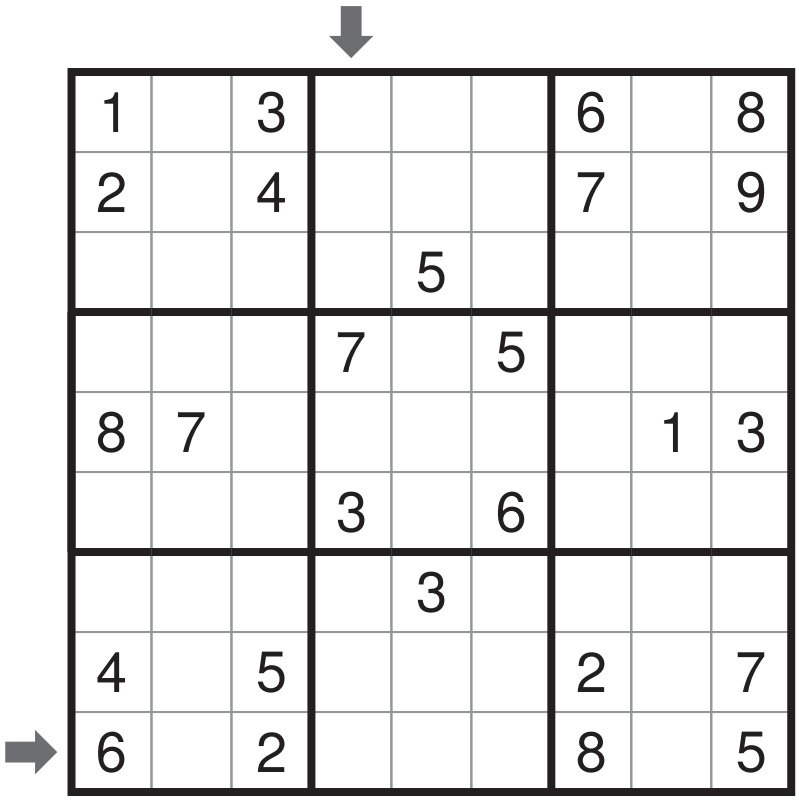
The borders between some cells may be either thick or nonexistent. A thick border separating two cells means one is shaded and the other is not. A lack of a border means the two cells are both shaded or both unshaded.



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

H1 – Sudoku (Thomas Snyder) *30 points*

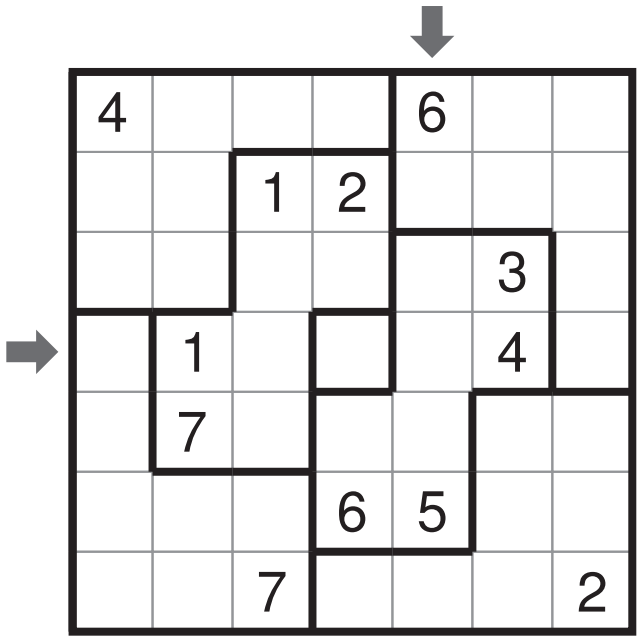
Place a digit from 1 to N in each cell of the N by N grid such that each digit appears exactly once in each row, and column, and outlined region.



Answer Key: Enter the digits in the marked directions.

H2 – Surplus Sudoku (Thomas Snyder) *45 points*

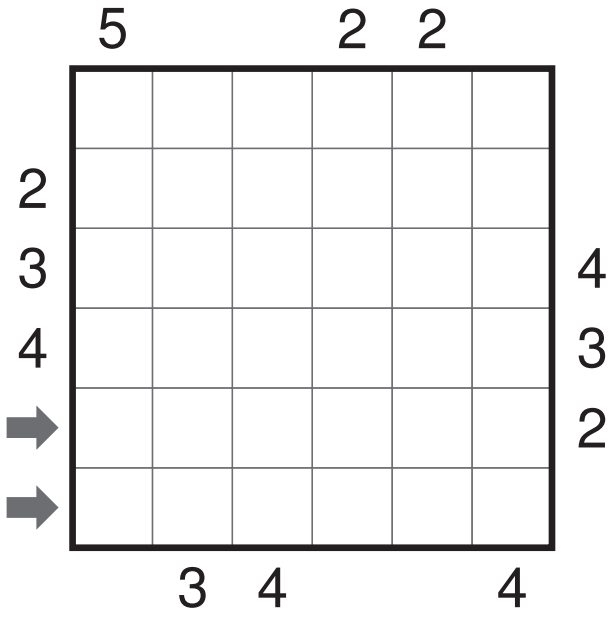
Place a digit 1 to N in each cell of the N by N grid such that each digit appears exactly once in each row and column. Each digit appears at least once in outlined regions, except single cell regions.



Answer Key: Enter the digits in the marked directions.

I1 – Skyscraper (Deb Mohanty) — *30 points*

Place a digit from 1 to N in each cell of the N by N grid such that each digit appears exactly once in each row and column.
Digits in the cell represent height of skyscraper.
Digits outside the grid represent the number of skyscrapers seen (not blocked by a taller skyscraper) from the corresponding direction.

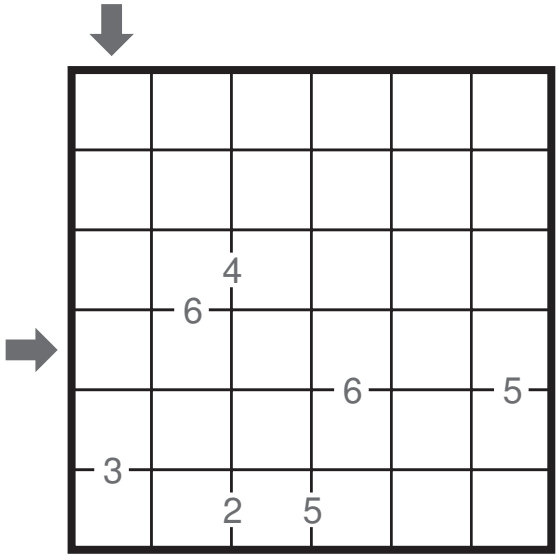


Answer Key: Enter the digits in the marked directions.

I2 – Inside Skyscraper (Deb Mohanty) — *45 points*

Same rules as I1 – Skyscraper.

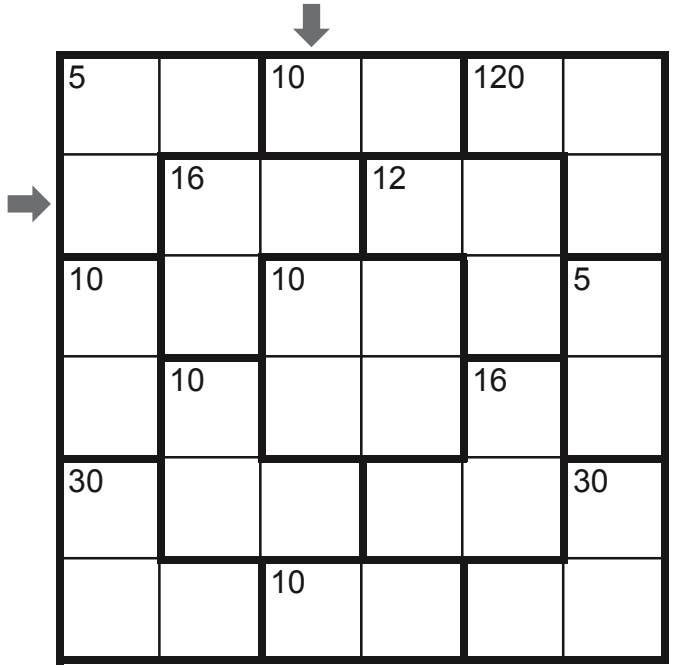
The numbers along the grid lines represent number of skyscrapers visible from that vintage point.



Answer Key: Enter the digits in the marked directions.

J1 – TomTom (Thomas Snyder) *30 points*

Place a digit from 1 to N in each cell of the N by N grid such that each digit appears exactly once in each row and column.
The value in the upper-left of each bold region indicates the value after some mathematical operation (addition, subtraction, multiplication, or division) is applied to the numbers in that region. For division and subtraction, start from the largest number.

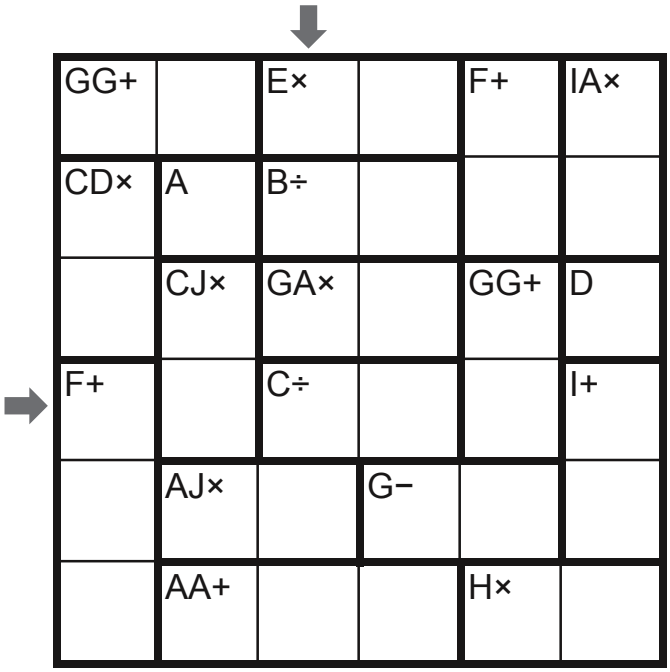


Answer Key: Enter the digits in the marked directions.

J2 – Coded TomTom (Thomas Snyder) *50 points*

In this TomTom puzzle, 0-9 have been replaced with A-J with each letter representing a unique digit. Zero cannot be the first digit of a multi-digit number. The mathematical operation to be used in each region is already given.

The grids are to be filled with A-F where A < B < C < D < E < F.

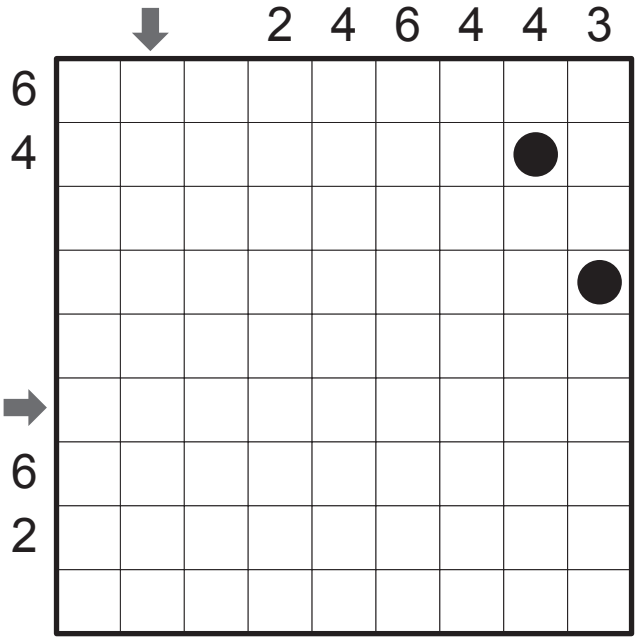


Fill grid with the 6 digits A-F where A < B < C < D < E < F

Answer Key: Enter the digits in the marked directions.

K1 – Snake (Serkan Yurekli) *35 points*

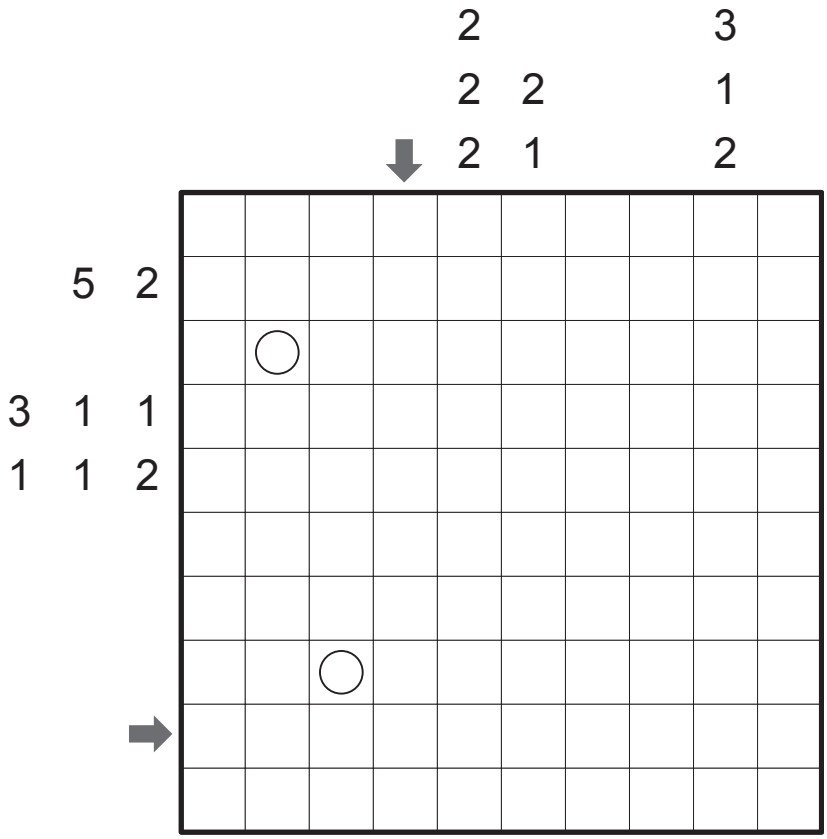
Locate a snake in the grid, whose head and tail are given. The snake does not touch itself even at a point. Numbers outside the grid indicate lengths of snake segments in the corresponding direction.



Answer Key: Enter the lengths of separate snake segments in the marked directions.

K2 – Graffiti Snake (Serkan Yurekli) *40 points*

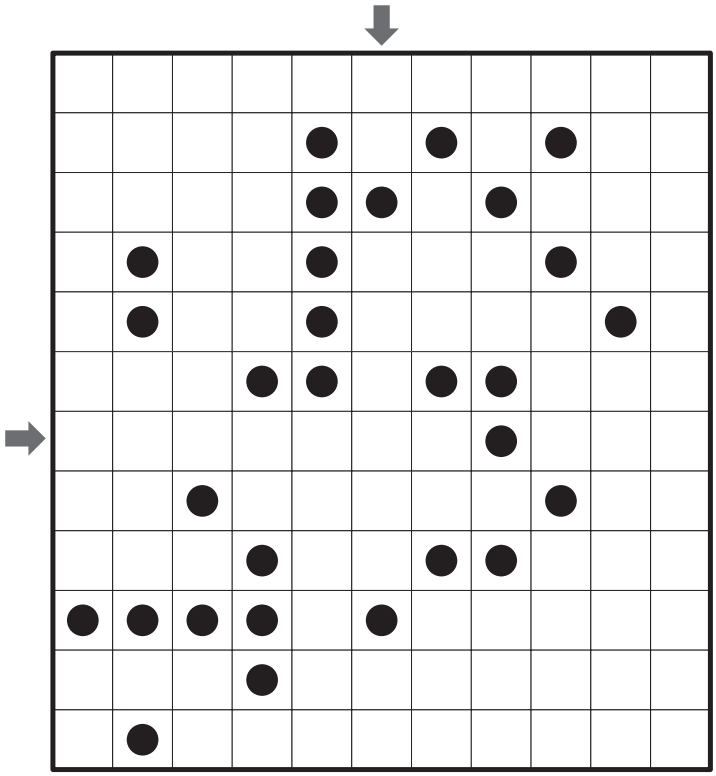
Paint some cells to create black walls. The numbers outside the grid indicate lengths of blackened cell blocks in the corresponding directions, in order. If there are more than one blacked blocks in a row or column, there must be a white cell between the blocks.
A snake travels through all the white cells, moving horizontally or vertically, without touching itself, even at a point. The head and tail of the snake is given.



Answer Key: Enter the lengths of separate snake segments in the marked directions.

L1 – Square Division (Serkan Yurekli) *10 points*

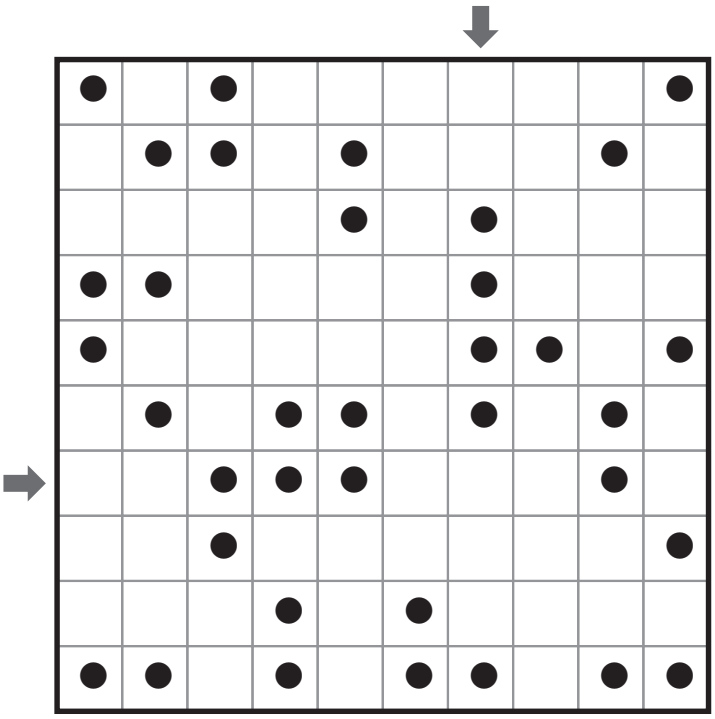
Divide the grid area into several square sub-areas. Each square must contain exactly one circle.



Answer Key: Enter the number of squares in the marked directions

L2 – Square Division (Deb Mohanty) *10 points*

Divide the grid area into several square sub-areas. Each square of length N must contain exactly N circles.



Answer Key: Enter the number of squares in the marked directions

M1 – Mastermind (Serkan Yurekli) — *5 points*

Find out the correct series of symbols with the help of the information given by the black and white markers. Black markers indicate correct symbols in the right position, while the white ones mark correct symbols in the wrong place. Each symbol can occur only once in the solution.

CUTE	○ ○
GIRL	● ●
BEAT	○ ○
THEM	● ●

Answer Key: Enter the correct sequence of symbols.

M2 – 2D Mastermind (Serkan Yurekli) — *30 points*

Same rules as M1 – Mastermind, except that the 2-dimensional grid has to be filled in. The range of symbols to be used is given.

A-I

I	B	C	●
E	H	F	○
A	D	G	●
●	○	○	
●	○		

D	H	A	○
C	I	G	●
E	F	B	○ ●
●	●	○	

A	I	H	○
G	C	F	○
D	B	E	●
○	○	●	
		○	

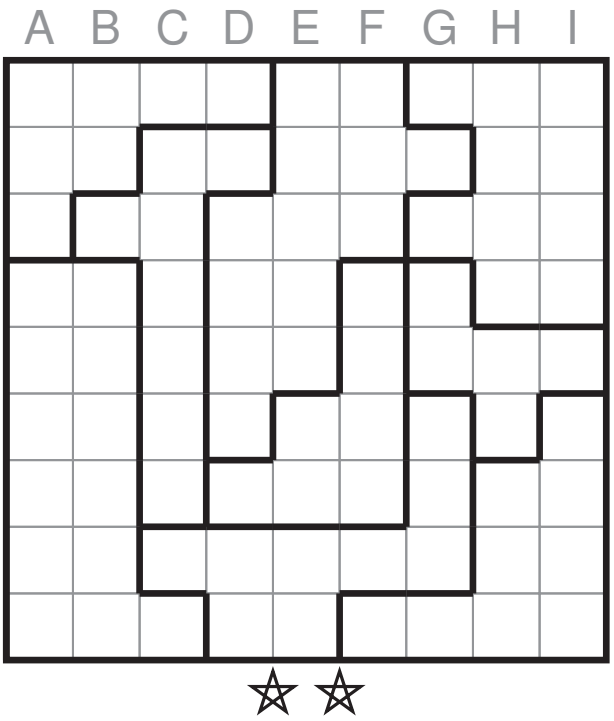
			● ● ●
			● ● ●
			● ● ●
●	●	●	
●	●	●	
●	●	●	

Answer Key: Enter the symbols in the grid in each row, starting from top.

N1 – Star Battle (Deb Mohanty) *20 points*

Place the given number of stars in each row, each column and each region.

Stars do not touch each other, even diagonally.



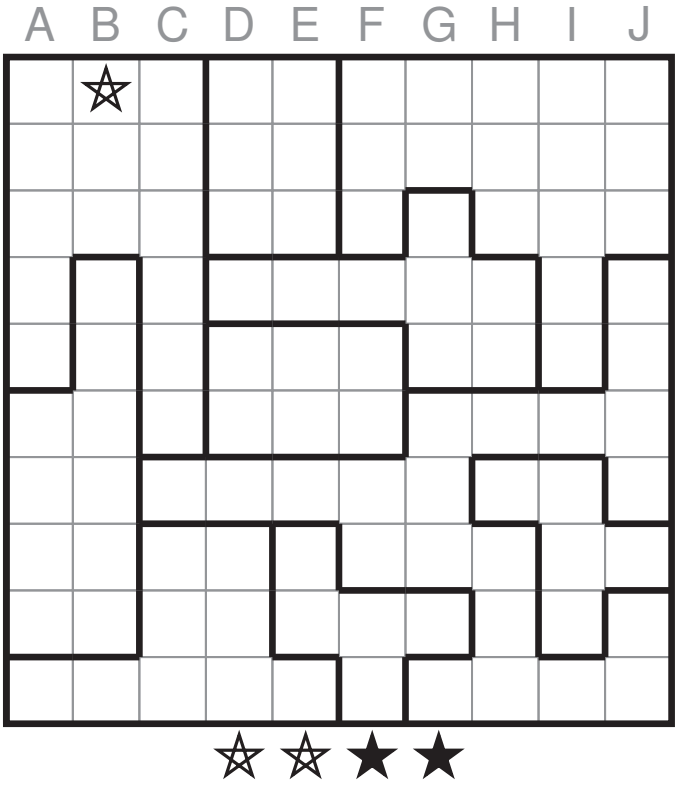
Answer Key: For each row from top to bottom, enter the column position of left most star

N2 – Colored Star Battle (Deb Mohanty) *80 points*

Place the given number of stars in each row, each column and each region.

Similarly colored stars do not touch each other, even diagonally.

Some stars may be given.



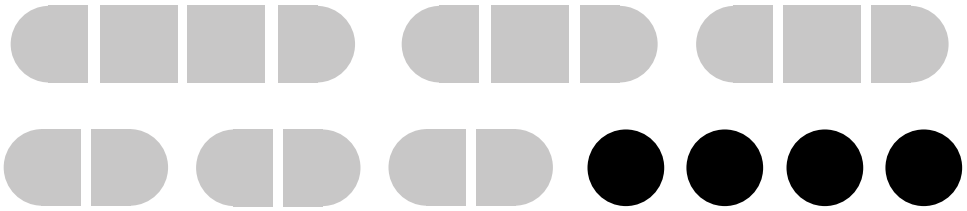
Answer Key: For each row from top to bottom, enter the column position of left most star

O1 – Battleships (Thomas Snyder) *25 points*

Locate the indicated fleet in the grid. Each segment of a ship occupies a single cell. Ships can be rotated, but cannot be reflected. Ships do not touch each other, 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.

[Ignore the different shading in some ship segments. They are used for answer key purpose.]

	A	B	C	D	E	F	G	H	I	
J	≈	≈	≈							3
K		≈								1
L		≈		≈	≈	≈				2
M		≈		≈		≈				4
N	≈	≈	≈	≈	≈	≈	≈	≈	≈	0
O				≈			≈			4
P				≈			≈			2
Q							≈			3
R							≈	≈	≈	1
	2	2	4	1	4	1	1	4	1	

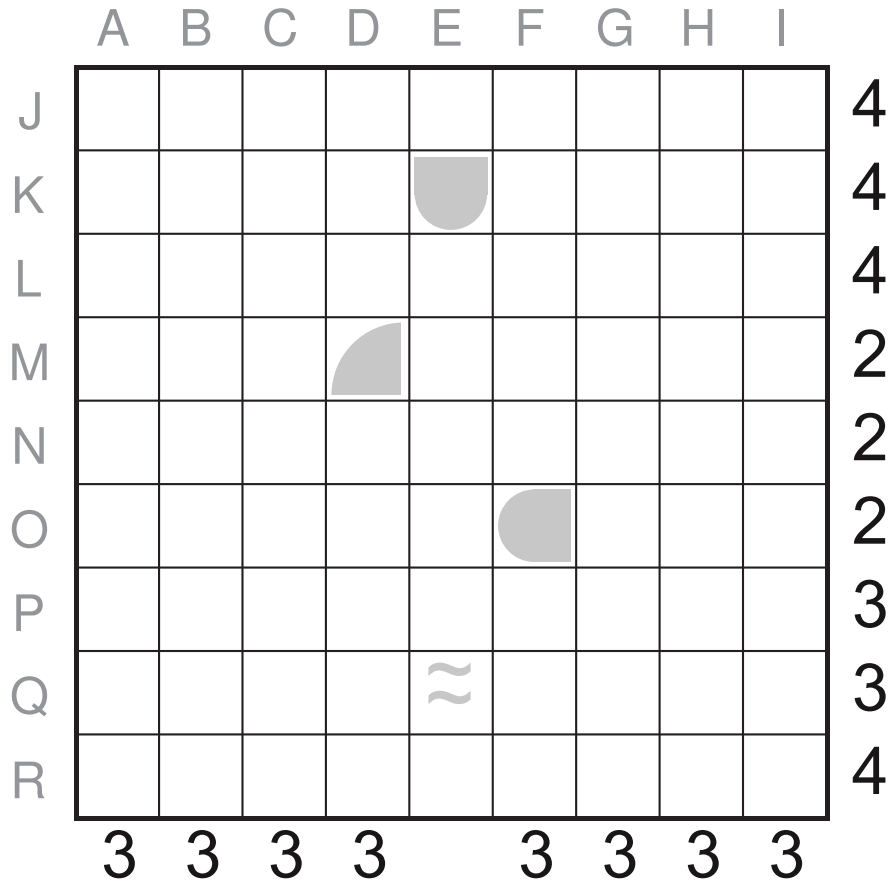


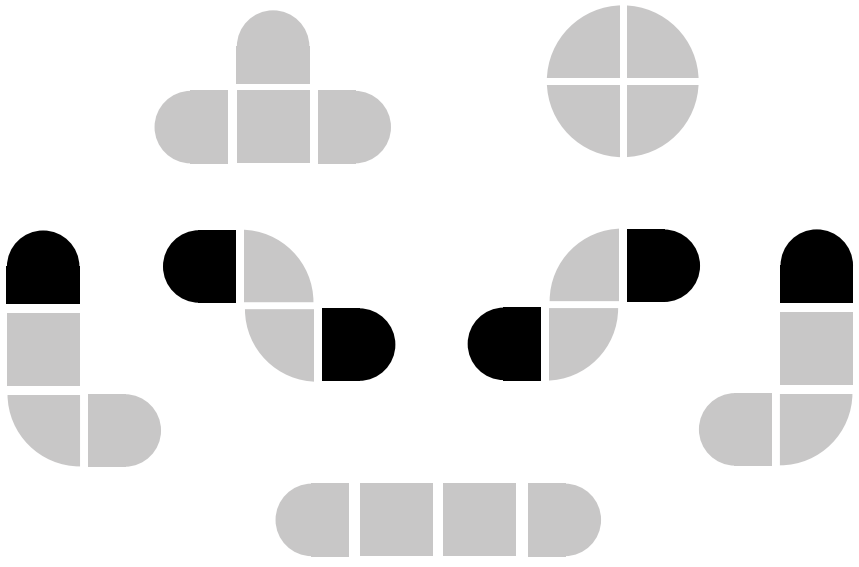
Answer Key: Enter the locations of marked segments using the given coordinate system.

O2 – Battleships (Thomas Snyder) *45 points*

Locate the indicated fleet in the grid. Each segment of a ship occupies a single cell. Ships can be rotated, but cannot be reflected. Ships do not touch each other, 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.

[Ignore the different shading in some ship segments. They are used for answer key purpose.]



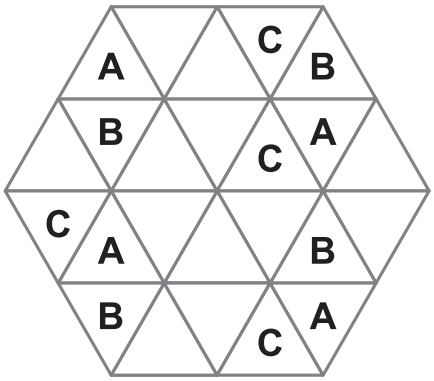


Answer Key: Enter the locations of marked segments using the given coordinate system.

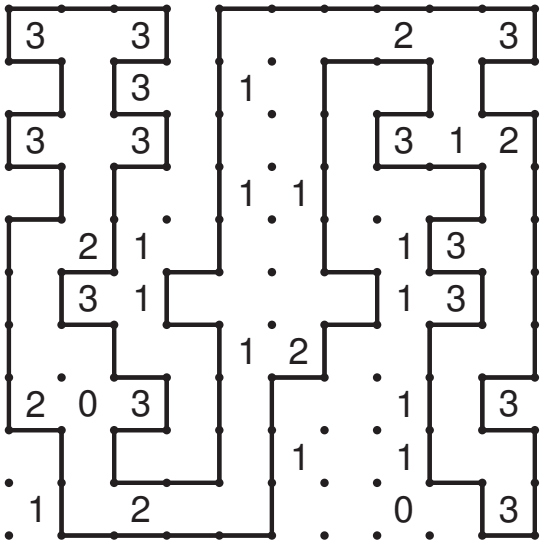
A1 – As Easy As ABC (Deb Mohanty)

	C	B	D				A	
	C	B	D	E			A	
A			A	D	E	B	C	C
	D	E		B	A	C		C
	E			C	B	A	D	D
B	B	C	E	A	D			D
A	A	D	C			E	B	
		A	B		C	D	E	
	A	A	B	A				

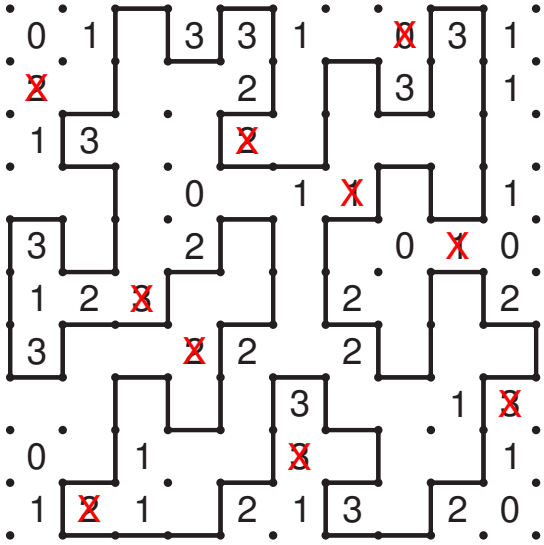
A2 – As Easy As ABC (Serkan Yurekli)



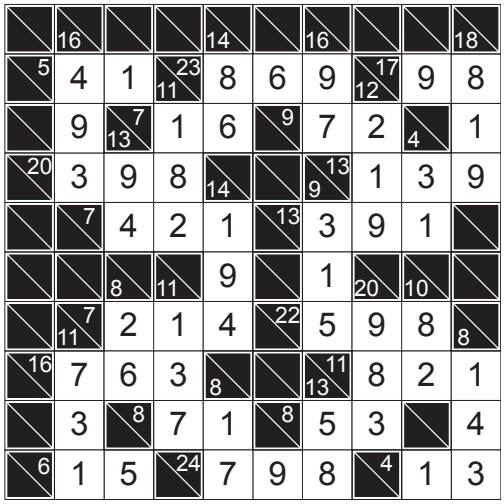
B1 – Slitherlink (Palmer Mebane)



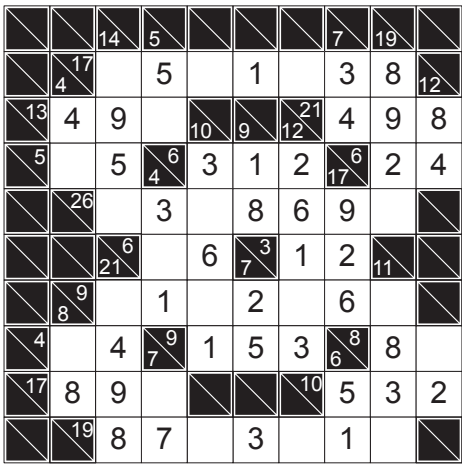
B2 – Liar Slitherlink (Palmer Mebane)



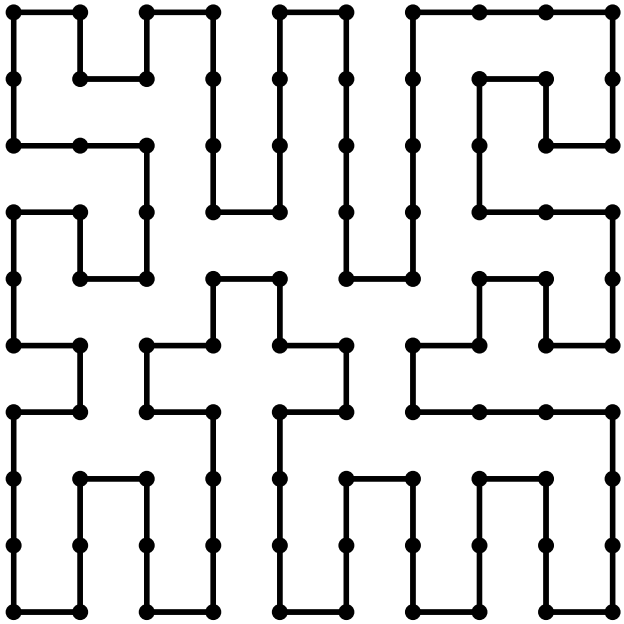
C1 – Kakuro (Serkan Yurekli)



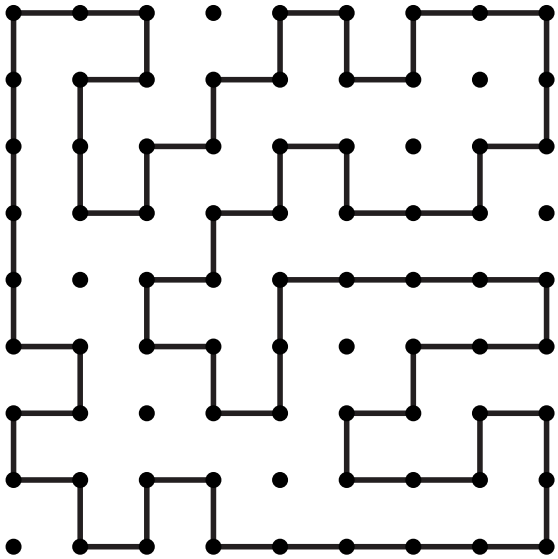
C2 – Gapped Kakuro (Serkan Yurekli)



D1 - Loop Finder (Deb Mohanty)



D2 – Around the Black (Deb Mohanty)



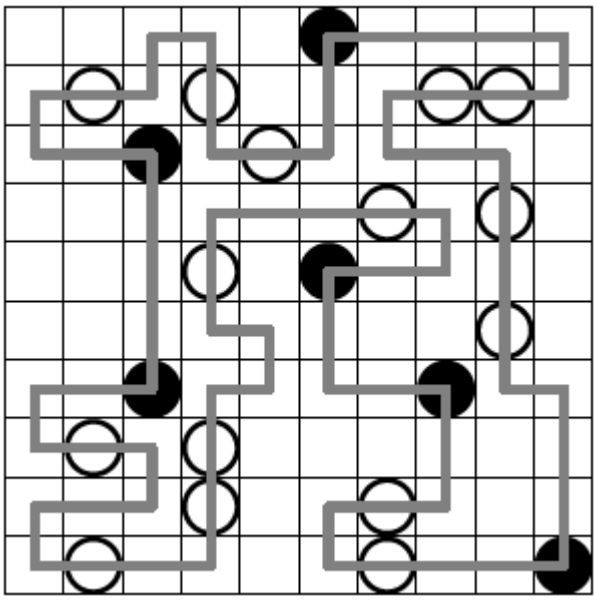
E1 – Hitori (Deb Mohanty)

■7	4	■5	6	■1	7
4	3	6	2	1	5
1	■3	5	■2	3	■1
2	6	■7	3	7	4
7	■1	3	5	2	■3
■6	1	4	■4	6	3

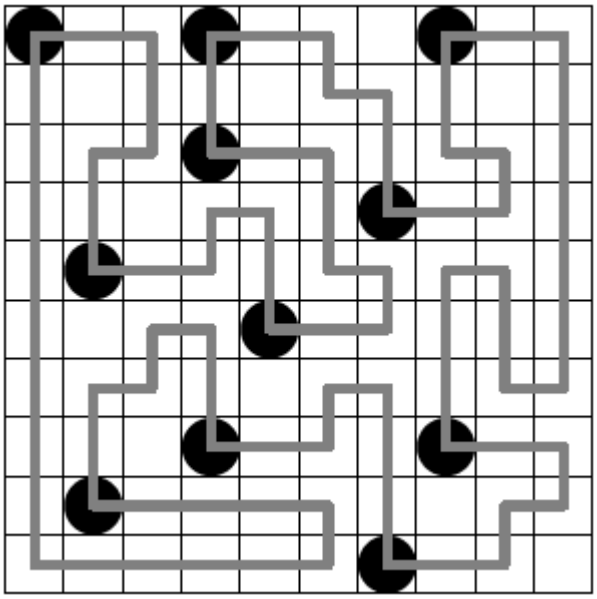
E2 – Hitori Row Sum (Deb Mohanty)

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

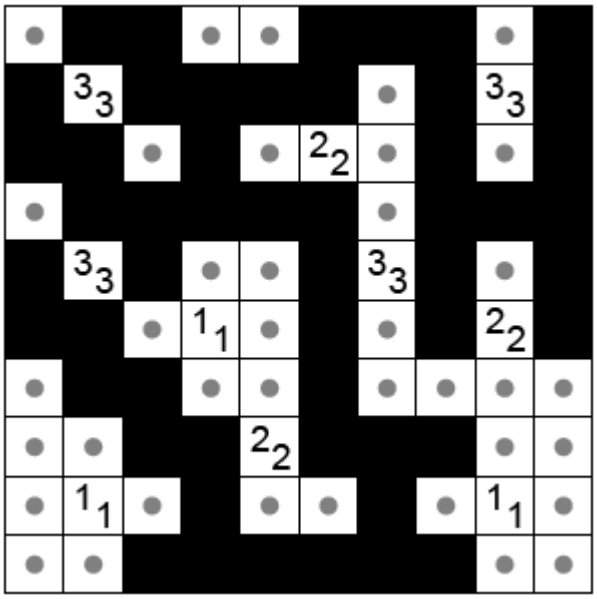
F1 – Masyu (Palmer Mebane)



F2 – Masyu No Touch (Palmer Mebane)



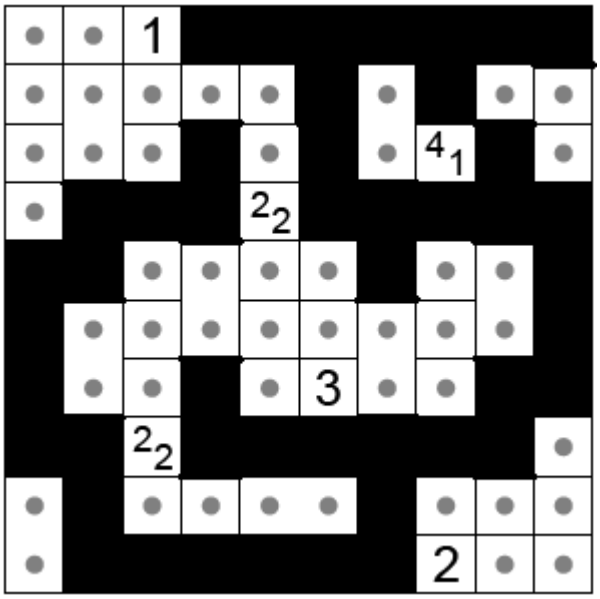
G1 – Tapa (Palmer Mebane)



H1 –Sudoku (Thomas Snyder)

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

G2 – Tapa Borders (Palmer Mebane)



I1 – Skyscraper (Deb Mohanty)

2	1	3	4	5	6
3	6	4	2	1	5
4	5	6	3	2	1
1	2	5	6	4	3
5	3	2	1	6	4
6	4	1	5	3	2

H2 – Surplus Sudoku (Thomas Snyder)

4	3	5	1	6	2	7
7	5	1	2	3	6	4
6	2	4	5	7	3	1
3	1	6	7	2	4	5
2	7	3	4	1	5	6
1	4	2	6	5	7	3
5	6	7	3	4	1	2

I2 – Inside Skyscraper (Deb Mohanty)

4	5	3	6	2	1
3	4	2	5	1	6
2	3 4	1	4	6	5
6	1	4	3	5	2
5	2	6	1	4	3
1	6 2	5	5 2	3	4

6 6 5 3

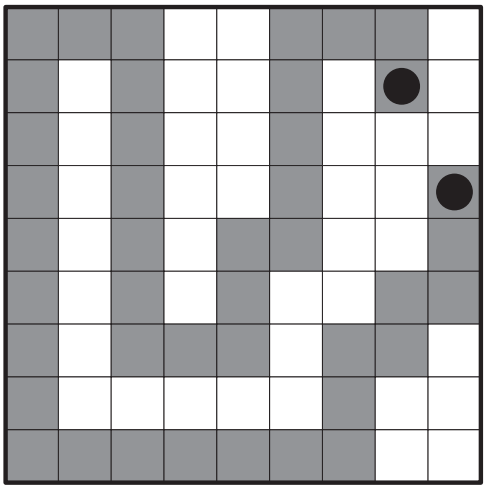
J1 – TomTom (Thomas Snyder)

5 3	1	10 2	5	120 6	4
1	16 4	6	12 2	3	5
10 4	6	10 5	1	2	5 3
6	10 5	1	3	16 4	2
30 5	2	3	4	1	30 6
2	3	10 4	6	5	1

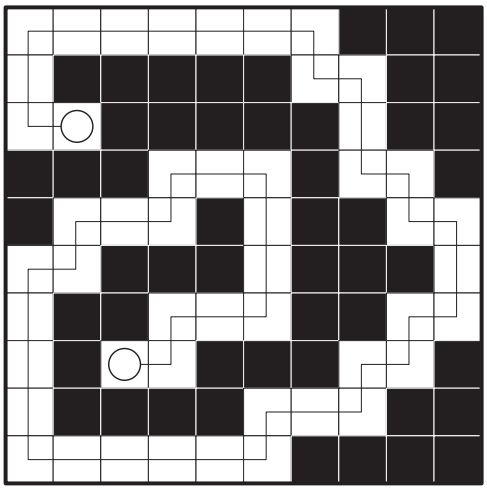
J2 – Coded TomTom (Thomas Snyder)

11+ 8	3	8× 4	2	9+ 5	72× 9
45× 5	2 2	3÷ 9	3	4	8
9	40× 8	12× 3	4	11+ 2	5 5
9+ 3	5	4÷ 2	8	9	7+ 4
2	20× 4	5	1− 9	8	3
4	22+ 9	8	5	6× 3	2

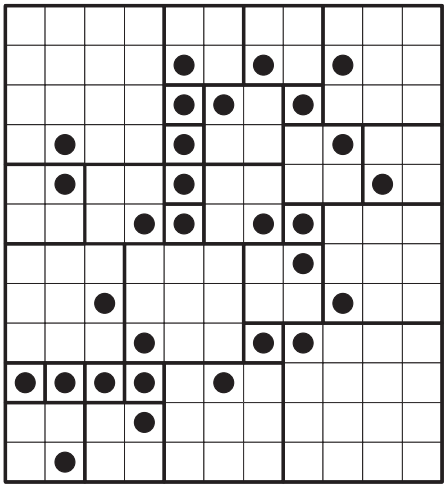
K1 – Snake (Serkan Yurekli)



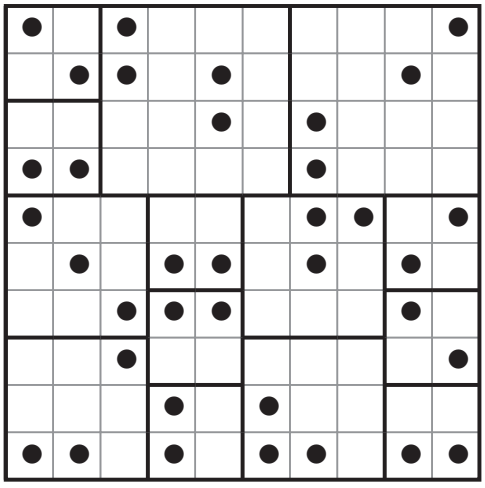
K2 – Graffiti Snake (Serkan Yurekli)



L1 – Square Division (Serkan Yurekli)



L2– Square Division (Deb Mohanty)



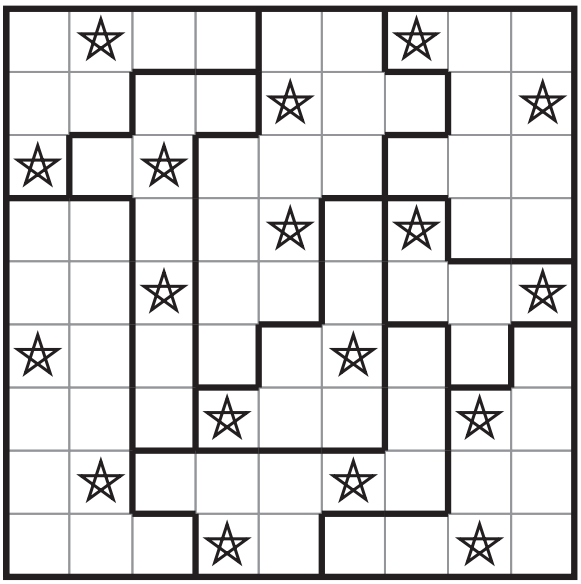
M1 – Mastermind (Serkan Yurekli)

TIEL

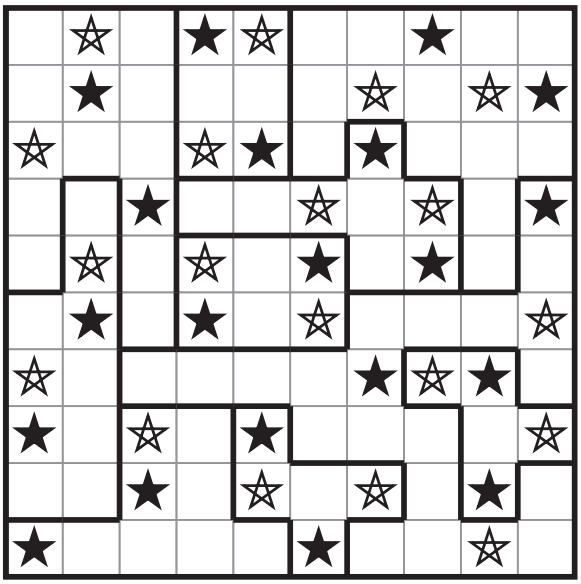
M2 – Mastermind (Serkan Yurekli)

I	D	G
C	B	H
A	F	E

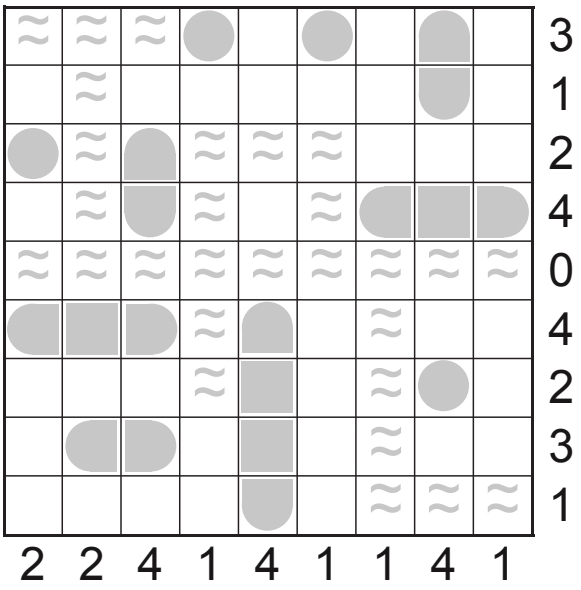
N1 – Star Battle (Deb Mohanty)



N1 – Colored Star Battle (Deb Mohanty)



O1– Battleships (Thomas Snyder)



O2– Battleships (Thomas Snyder)