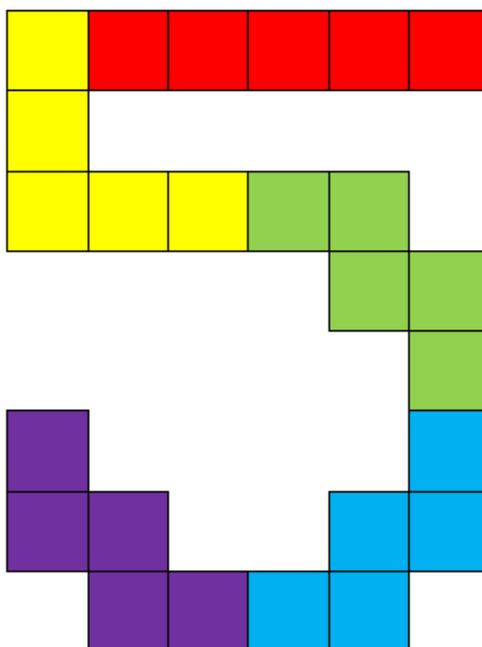
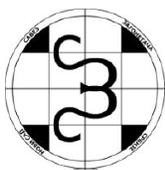


THE FIFTH OPEN CHAMPIONSHIP IN SOLVING OPTIMIZING PUZZLES

NOVEMBER 26th - DECEMBER 9th 2012

<http://puzzleserbia.rs/>



FIRST WEEK

(26.11. - 2.12.)

1. CONSTELLATIONS

2. PENTOMINO XTV

3. DOPPELBLOCK

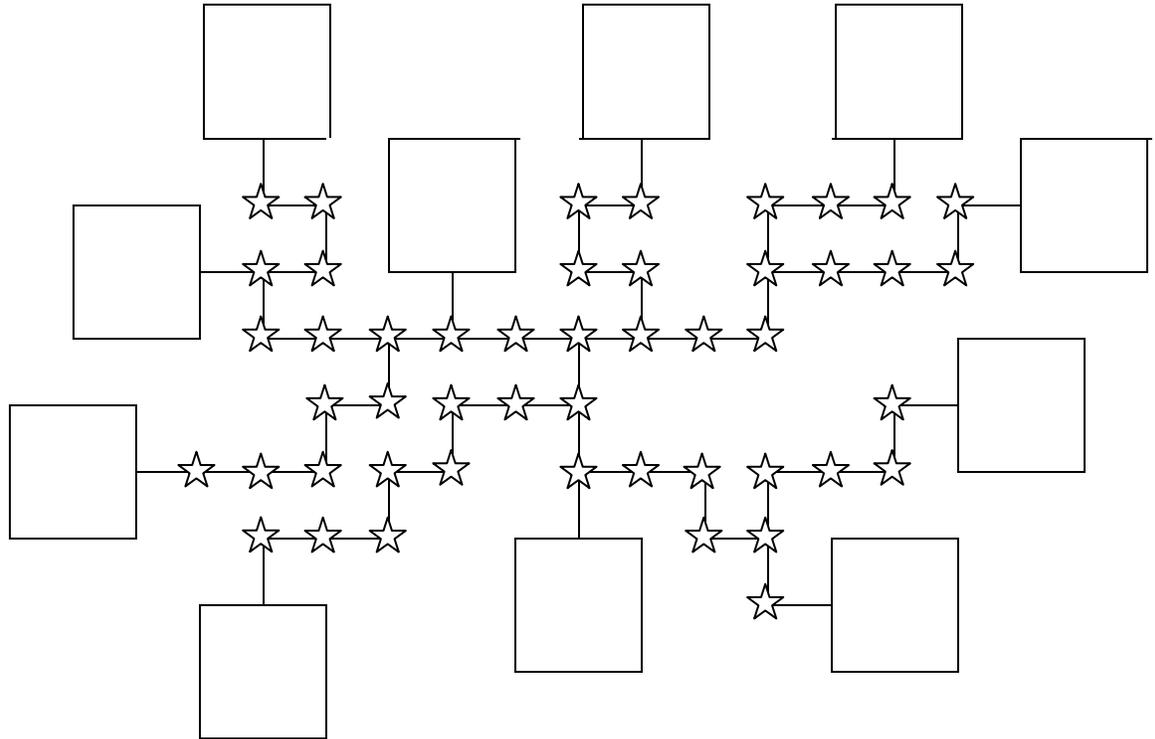
Puzzle author: Nikola Živanović

1. CONSTELLATIONS

In our sky there is a space for 11 constellations. You should place all 10 constellations from the list below and one space will be left empty.

Scoring: Follow all planned routes given in the left table below and calculate their total length. Then follow the six unplanned routes from the right table below and subtract their total length from your score. Maximize your score.

- | |
|-----------|
| ANDROMEDA |
| BOOTES |
| CENTAURUS |
| DORADO |
| ERIDANUS |
| FORMAX |
| GEMINI |
| HERCULES |
| INDUS |
| LIBRA |



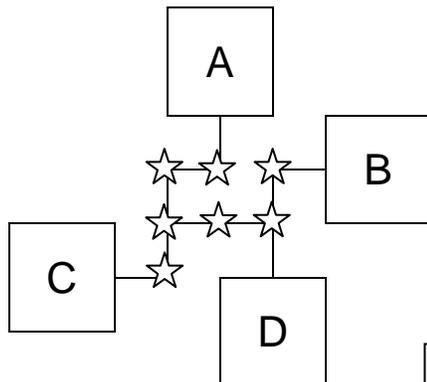
planned routes:

ANDROMEDA - BOOTES	ERIDANUS - HERCULES
ANDROMEDA - CENTAURUS	ERIDANUS - INDUS
ANDROMEDA - DORADO	FORMAX - GEMINI
BOOTES - GEMINI	FORMAX - HERCULES
BOOTES - INDUS	FORMAX - INDUS
DORADO - GEMINI	HERCULES - LIBRA

unplanned routes:

ANDROMEDA - GEMINI
ANDROMEDA - HERCULES
BOOTES - FORMAX
CENTAURUS - DORADO
CENTAURUS - ERIDANUS
GEMINI - INDUS

Example:



planned routes:

ANDROMEDA - BOOTES = 7
ANDROMEDA - DORADO = 6

unplanned routes:

CENTAURUS - DORADO = 5

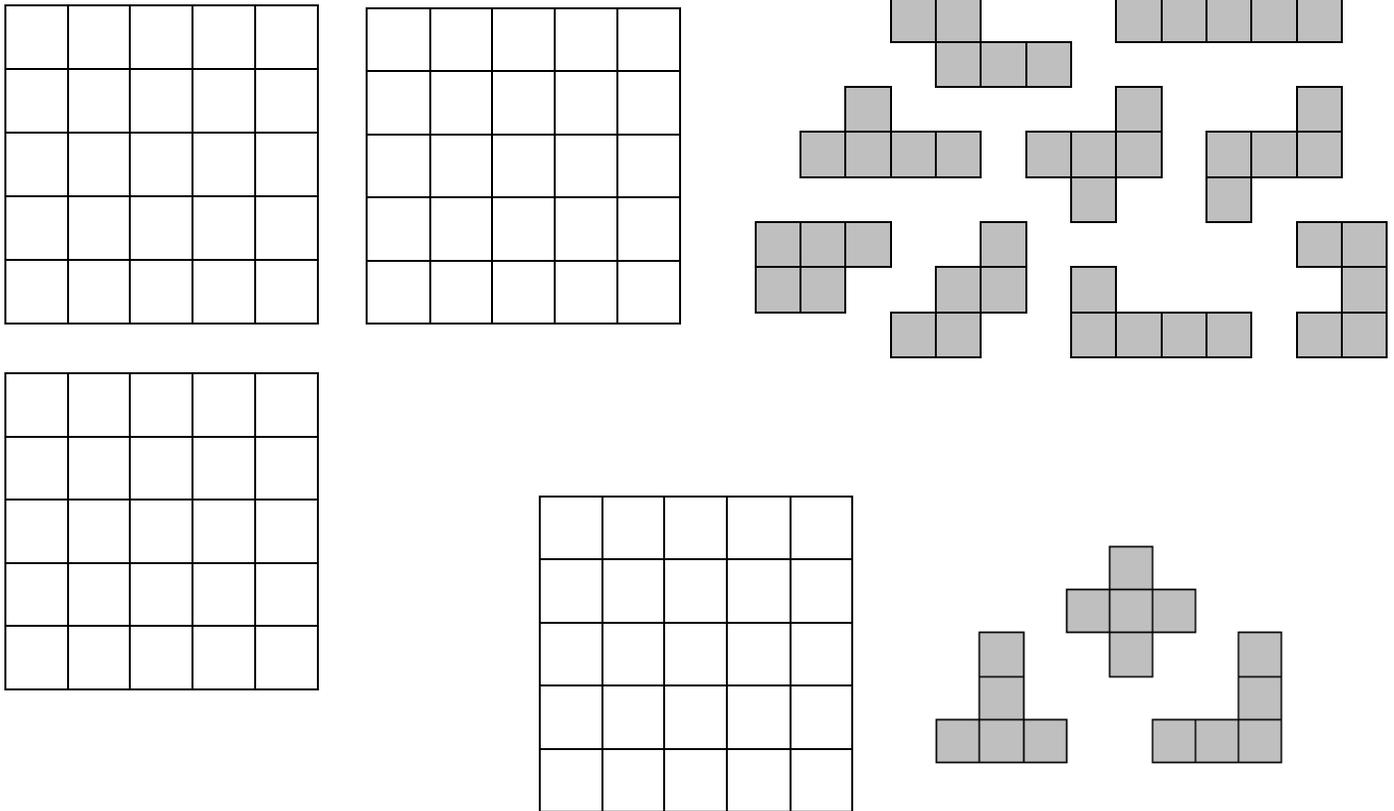
The score of the example is $7+6-5=8$.

Answer: First write your score, then all the constellations (initial letters will suffice) clockwise starting from the upper left. Use "-" for blank. For the given example, the answer would be: 8; A, B, D, C.

2. PENTOMINO XTV

Place 9 different pentominoes (except X, T and V) in three grids, three pentominoes in each grid. Pentominoes may be rotated and reflected, but may not overlap. Fill the remaining ten squares in each grid with sequence of numbers 1-2-3-1-2-3-1-2-3-1, left to right, top to bottom. The numbers that are in the same squares in all three grids are then added up and carried over to the fourth grid.

Scoring: Place pentominoes X, T and V in the fourth grid. Add all six three digit numbers seen in these pentominoes from left to right or top to bottom. Maximize your score.



Example:

1		2	3	1
		2		
3				
1	2	3		1

				1
	2	3		1
	2	3		
		1	2	
3			1	

1				2
3		1		2
3	1		2	3
1				

1	0	0	0	3
4	2	6	3	4
3	3	5	2	3
4	0	1	2	0
4	2	3	1	1

The added numbers 003+032+230+335+301+311=1212.
The score of the example is **1212**.

Answer: First write your score, then the content of all four grids, left to right, top to bottom. Use the corresponding letters for each pentomino. For the given example the answer would be: 1212; IIII, 1F231, FF2PP, 3FFPP, 123P1, LLLL1, L23N1, W23NN, WW12N, 3WW1N, 1UUU2, 3U1U2, 31Z23, 1YZZZ, YYYYYZ, 10TTT, 4X6T4, XXXTV, 4X12V, 42VVV.

3. DOPPELBLOCK

Place in each row and column the numbers from 1 to 6 and two black squares - blocks. One number 5 is already placed.

Scoring: All **different** sums that are found between two blocks in all 16 lines (rows and columns) are added up. Besides, each number in the grid than coincides with total number of blocks in horizontally, vertically and diagonally adjacent squares (marked red in the example) is added to the score. Maximize your score.

5							

Example (on smaller grid):

	5	5	5	8	6	2
0	2	4			1	3
10		1	2	4	3	
4	4		3	1		2
7	1	2		3	4	
7		3	4		2	1
3	3		1	2		4

The added sums
 $10+8+7+6+5+4+3+2=45$.
 Four numbers coincides
 with total number of blocks
 in adjacent cells
 $3+3+3+2=11$. The score of
 the example is $45+11=56$.

Answer: First write your score, followed by the content of the grid, left to write, top to bottom. Use "X" for blocks. For the given example, the answer would be: 56; 24XX13, X1243X, 4X31X2, 12X34X, X34X21, 3X12X4.

Please send your answers to the email answers@puzzleserbia.rs in the following format:

Name:

City, Country:

1.

8; A, B, D, C

2.

1212; IIII, 1F231, FF2PP, 3FFPP, 123P1, LLLL1, L23N1, W23NN, WW12N, 3WW1N, 1UUU2, 3U1U2, 31Z23, 1YZZZ, YYYYYZ, 10TTT, 4X6T4, XXXTV, 4X12V, 42VVV

3.

56; 24XX13, X1243X, 4X31X2, 12X34X, X34X21, 3X12X4