

This test is designed to practice some of the puzzles in WPC 2013.
Official web page: http://wscwpc2013.sudoku.org.cn/
This test consists of 20 puzzles of 10 puzzle types, and they are divided into 2 parts; Classic and Non-classic.

All puzzle types will appear in the WPC 2013.

| Classic |  | Non-classic |  |
| :--- | :--- | :--- | :--- |
| 01 Fences | 15+75pts | 06 Wall | $25+75 \mathrm{pts}$ |
| 02 Star battle | 10+70pts | 07 Dotted Wall | $20+65 \mathrm{pts}$ |
| 03 Snake | 10+80pts | 08 Rolling maze | $10+40 \mathrm{pts}$ |
| 04 Kakuro | 20+60pts | 09 Windows | $15+60 \mathrm{pts}$ |
| 05 Battleships | $15+60$ pts | 10 Pentopia | $20+55 \mathrm{pts}$ |

## 800pts / 90minutes

## 01 Fences

Draw a single closed loop into the grid so that it does not touch or cross itself. A numbers in a cell indicates the number of sides of that cell occupied by the loop.

Answer key: The lengths of each segment of the loop in the direction indicated by arrows. For the example, the answer key will be: 11, 2

## Example



Answer


## 02 Star battle

Place stars into the grid so that they don't touch each other even diagonally.
There are the same number of stars in each row, column and bold-lined region. The number of the stars is shown beside the grid.

Answer key: The locations of the left-most stars of each line, from top to bottom.
For the example, the answer key will be: DBEAFBFAE

Example


Answer


## 03 Snake

Find a snake in the grid whose body consists of horizontally and vertically connected black cells. The snake's body never touches itself, not even diagonally.
The head and tail of the snake are given, and the number in the tail tells the length of the snake. Digits outside the grid indicate the nuber of cells occupied by the snake in that direction.

Answer key: The lengths of each segment of the snake in the direction indicated by arrows. For the example, the answer key will be: 111, 41

Example


Answer


## 04 Kakuro

Enter digits from 1 to 9 into all empty cells so that no digit repeat in any of the groups separated by shaded cells.
Clues indicate the sum of the digits of the corresponding group.
Answer key: Contents in the direction indicated by an arrow, ignoring shaded cells.
For the example, the answer key will be: 54321, 3126

Example

| 14 | 15 |  | 31 | 4 |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 11 |  |  | 12 |  |  |
| 15 |  |  |  |  |  |
|  | 22 |  |  |  |  |
| 6 |  |  |  | 8 |  |
| 15 |  |  |  |  |  |
| 3 |  |  | 13 |  |  |

Answer

|  | 14 | 15 |  | 31 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11 | 9 | 2 | $13^{12}$ | 9 | 3 |
| 15 | 5 | 4 | 3 | 2 | 1 |
|  | $6^{22}$ | 5 | 9 | 8 | 8 |
|  | 4 | 3 | 1 | 5 | 2 |
|  | 2 | 1 | 13 | 7 | 6 |

## 05 Battleships

Place the given ships into the grid so that they do not touch each other even diagonally. Clues outside the grid indicates the number of the cells occupied by ships.
Ships can't be in cells with an wave.
Answer key: The content in the direction indicated by arrows.
Write 1 for the cells with ship segment, 0 for the other ones.
For the example, the answer key will be: 010010, 010100

## Example



Answer


## 06 Wall

Divide the grid into two connected parts with a single continuous "Wall".
Number in a cell indicates the number of cells of "the other part" in the same row or column.
Answer key: Lengths of cells divided by the Wall in the direction indicated by an arrow.
For the example, the answer key will be: 1311, 33


Answer


## 07 Dotted wall

Blacken some empty cells so that all the black cells will be connected horizontally or vertically. No $2 \times 2$ area can be all blackened.
Then, counting from left to right, then top to bottom, place a dot into every Nth black cell. It is part of the puzzle to determine the value of N .
The number of the black cells does not have to be a multiple of N .
Some cells are clue cells; they are halved and has one or two numbers.
Clue cells can't be blackened.
The top number indicates how many cells around that cell are blackened.
The bottom one indicates how many cells around that cell has dots.
Answer key: The lengths of the black cells in the direction indicated by arrows. For the example, the answer key will be: 13, 211


Answer


## 08 Rolling maze

Find a sequence of given number of moves so that the ball will finally stop on the gray cell. The number will be shown beside the grid.
In each move, the ball rolls in one of the 4 direction (Up, Down, Left, Right), until it hits a wall.
Answer key: Write the sequence with U, D, L or R.
For the example, the answer key will be: RULDRD

Example


Answer


6 moves

## 09 Windows

For each $2 \times 2$ area, blacken two of its cells.
The black cells will form a Corral; Corral is a single connected group without $2 \times 2$ area, it does not surround any white areas and it can't touch itself even diagonally.
No $2 \times 2$ area can all remain white.
Answer key: The lengths of the black cells in the direction indicated by arrows.
For the example, the answer key will be: 11, 23

Example


Answer


## 10 Pentopia

Place some of the given pentominoes so that they do not touch each other even diagonally. Each pentomino can be rotated, but not reflected.
Arrows indicate all the directions of the closest cell with pentomino among the four directions. Cells with arrow can't be occupied by any pentomino.

Answer key: The lengths of the cells with pentomino in the direction indicated by arrows.
For the example, the answer key will be: 21,111


