## Indian Puzzle Championship 2011 - Finals

Round - 2
60 minutes

| Name: |
| :--- |
| Contact: |
| Submission Time: |


| Puzzle | Points | Check1 | Check2 |
| :--- | :---: | :---: | :---: |
| Every Second Breakpoint | 120 |  |  |
| Fence | 80 |  |  |
| Kakuro | 160 |  |  |
| Light Up | 40 |  |  |
| Minesweeper | 80 |  |  |
| Nurikabe | 140 |  |  |
| Paint By Number | 80 |  |  |
| Tapa | 100 |  |  |
|  | Points |  |  |

Notes

Partial point ( $50 \%$ of the puzzle value) will be given, if 3 of the $410 \times 10$ quadrants are as per the expected solution.

Draw a single closed loop visiting all cells in the grid using horizontal and vertical segments. It does not cross or overlap itself. It makes $90^{\circ}$ turn at every cell with a circle. There is also exactly one $90^{\circ}$ turn between two consecutive circles that the loop visits.


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


Note: This puzzle was
broken during the
championship because of
which Round 2 was
cancelled. (The booklet
has the corrected puzzle.)


Place one digit from 1 to 9 in each empty square so that the sum of the digits in each set of consecutive white squares (horizontal or vertical) is the number appearing to the left of a set or above the set. No number may appear more than once in any set of consecutive white squares.


Place light bulbs in some white cells in the grid so that every white cell in the grid is lit. A cell is illuminated by a light bulb if they are in the same row or column, and if there are no black cells between them. No light bulb may illuminate another light bulb. A number in a black cell indicates the number of light bulbs sharing an edge with that cell.



Place mines into some empty cells in the grid such that the numbers in the grid represent the number of mines in the neighboring cells, including diagonal ones.


|  | 3 |  | 1 |  | 1 |  |  |  |  |  |  |  | 2 |  | 2 |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  | 4 |  |  | 3 | 4 | 2 | 2 | 2 |  | 3 |  | 3 |  | 3 | 2 |  |
|  |  |  |  |  |  | 4 |  |  |  |  | 4 |  |  | 3 |  | 2 |  |  |  |
| 3 |  | 4 | 3 | 3 |  | 4 |  |  | 5 |  |  |  | 2 |  |  | 2 | 2 |  |  |
|  | 4 |  | 2 |  | 4 |  | 4 | 3 | 5 |  |  | 4 | 2 |  |  |  | 2 | 2 |  |
| 2 |  |  | 3 | 3 |  |  | 4 |  |  |  | 4 |  |  |  |  | 2 |  |  | 2 |
|  | 2 |  |  |  |  | 4 |  |  |  |  |  | 2 |  | 2 |  | 3 |  |  |  |
|  | 1 | 2 |  | 2 | 2 |  | 5 |  |  | 6 |  |  |  | 2 |  |  | 3 | 4 |  |
| 2 |  |  |  |  |  |  |  |  |  |  | 2 | 2 |  | 3 |  |  |  | 3 |  |
|  | 3 | 2 |  |  | 2 | 4 |  |  |  |  |  | 2 |  | 3 | 3 | 3 | 2 | 2 |  |
| 2 |  |  |  |  |  |  |  | 3 | 3 |  | 2 | 2 | 3 |  | 3 |  |  | 3 |  |
|  | 4 | 3 | 1 |  | 1 | 2 | 2 | 2 | 2 |  | 2 |  | 3 |  | 4 |  |  | 4 |  |
|  |  |  | 3 | 2 | 2 | 2 |  | 2 |  | 2 |  |  | 2 |  | 3 | 3 |  |  |  |
| 3 |  |  |  |  | 4 |  |  | 2 |  | 4 | 4 | 3 | 2 |  | 1 |  | 2 |  |  |
|  | 4 |  |  |  |  |  | 4 | 2 | 2 |  |  |  | 1 | 1 | 1 | 2 | 2 | 3 | 2 |
|  | 3 |  | 4 | 4 |  |  | 3 |  | 2 | 2 | 3 | 3 | 3 |  |  | 3 |  | 3 |  |
| 1 | 2 |  | 2 | 2 |  |  | 3 | 1 | 1 |  |  | 2 |  |  | 4 |  |  |  | 1 |
|  |  |  | 1 |  | 3 | 2 | 1 |  |  | 2 | 2 | 3 |  |  |  | 4 |  | 4 | 2 |
| 2 | 2 |  |  | 1 | 1 |  |  | 1 | 2 |  |  | 4 |  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |  | 1 |  |  | 3 |  |  | 2 | 2 | 1 | 2 | 1 |  |

Shade some cells in the grid, such that the shaded cells form a connected area via horizontal and vertical paths, and so that there are no $2 \times 2$ area of cells completely shaded. The remaining unshaded cells should form several connected islands. Each island should contain exactly one given number in the grid, and this number represents the number of cells of its corresponding island.



Blacken some of the cells to find out the hidden figure. The numbers on the sides of the grid give the number of black cells in each black stretch in a certain row or column, in order. The black regions are separated by one or more empty cells.


|  | 1 | 4 5 |  |  | 15 2 | 2 | 1 5 | 1 |  | 212 | 1210 | $\begin{array}{ccc}4 & \\ 0 & 1 \\ 1 & 17\end{array}$ | 2 | 2 | 5 |  | 8 | 16 | 5 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 132 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2212 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $21 \begin{array}{llll}2 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 533 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 535 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 335 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $3 \begin{array}{lll}3 & 3\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 331 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 3 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 3 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 6 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}9 & 2 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}9 & 2 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 5 & 5 & 3\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2653 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Shade some cells black to form a continuous wall. There cannot be a $2 \times 2$ square of cells that are all shaded. Numbers in cells indicate the length of connected black cell groups in the neighboring cells; if there is more than one number in a cell, then there must be at least one white cell between each of the indicated black cell groups. Cells with numbers cannot be a part of the wall



Draw a single closed loop visiting all cells in the grid using horizontal and vertical segments. It does not cross or overlap itself. It makes $90^{\circ}$ turn at every cell with a circle. There is also exactly one $90^{\circ}$ turn between two consecutive circles that the loop visits.


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


Place one digit from 1 to 9 in each empty square so that the sum of the digits in each set of consecutive white squares (horizontal or vertical) is the number appearing to the left of a set or above the set. No number may appear more than once in any set of consecutive white squares.


|  |  | 12 |  |  |  |  |  |  |  |  |  |  |  |  |  | $22$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{23} 9$ | 8 | 6 | 2 | 4 | 5 | 1 | 9 | , | 3 | 7 |  | 9 | 8 | 4 |  | 7 | 9 |
| ${ }^{21} 6$ | 4 | 12 | 23 | 5 | ${ }_{3}^{17} 7$ | 4 | 3 | 2 | 1 |  | 9 | 6 | 5 | 3 | 2 | 1 | 4 |
|  | 9 | 38 | $8{ }_{24}{ }^{32}$ | 1 | 29 | 8 | 5 | 7 | 12 | 3 | 8 | 1 |  | 9 | 7 | 3 | 8 |
|  | 7 | 2 | 7 |  | 8 |  | 1 |  | 6 | 2 | 1 |  |  |  | 9 | 4 |  |
|  | 3 |  | 4 | 5 | 123 | 9 |  | 9 | 8 | 7 | ) | 6 | 9 | 1 |  | 2 | 3 |
| $12$ | 1 | $7{ }^{23}$ | ${ }_{23}^{29} 8$ | 1 | 34 | 6 | 5 | 2 |  | 5 | 2 | 1 | 3 |  | $9$ | 5 | 7 |
|  | 2 | 89 | 9 | 2 | 6 |  | 9 | 8 |  | 6 |  | 7 |  | $9$ | 4 | 7 |  |
|  |  | 6 | 62 | 3 | 51 | 8 |  |  | $9$ | 4 | 3 | 5 | 7 | 6 | 1 | 2 | 8 |
| $13$ | 9 |  | 8 |  | 2 | 7 |  | 2 | 8 | 1 |  | 3 | 9 |  | 5 | 8 | 9 |
| $16$ | 8 | 6 | 3 | 4 | 8 | 9 | 1 | 8 |  |  |  | 4 |  | 9 | 2 | 7 |  |
|  | 7 | 59 | $\mathrm{C}_{1}{ }_{4}^{14}$ | 5 | 9 |  | 8 | 9 | 2 |  | 3 | 2 |  |  | 3 | 9 | 8 |
| $99$ | 6 | 4 |  | 6 | 2 | 1 | 6 |  | 9 | 6 |  |  |  | 1 |  | 1 | 6 |
| $4$ | 2 | 17 | 73 | 8 | 95 | 4 |  | ${ }_{11}^{38}$ | 1 | 7 | 9 | 2 | 8 | 5 | 6 |  | 3 |
|  |  | 39 | 9 | 1 | 1 |  | 8 | 4 |  | 1 |  | 1 |  | 2 | 1 | 6 |  |
| $8$ | 9 | 2 | $\sqrt[26]{7}$ | 2 | 98 |  | 6 | 7 | 2 | 8 | 9 | 5 | 4 |  | 2 | 3 | 1 |
|  | 4 | $8$ | 89 | 3 | 6 | 8 | 9 |  |  | 2 |  | 3 | 1 |  |  | 5 | 4 |
|  |  | 920 |  |  | 4 | 9 |  | 8 |  | 4 |  |  | 2 |  |  | 8 | 3 |
| $12$ | 1 | 43 | $31$ |  | 93 |  | 8 | 9 | 1 | 5 | 2 | 4 |  |  | 2 | 4 |  |
| $41>7$ | 5 | 89 | 96 | 2 | 4 |  | 5 | 4 | 2 | 3 |  |  | 3 | 7 | 8 | 9 | 6 |
| $129$ | 3 | ${ }^{18} 8$ | 89 | 1 | 197 | 3 | 9 | 16 | 7 | 9 | 14 | 5 | 9 |  | 3 | 7 | 1 |

Place light bulbs in some white cells in the grid so that every white cell in the grid is lit．A cell is illuminated by a light bulb if they are in the same row or column，and if there are no black cells between them．No light bulb may illuminate another light bulb．A number in a black cell indicates the number of light bulbs sharing an edge with that cell．


|  | 兄 |  | 2 | 営 |  |  |  |  | 兄 |  |  |  | ＇0＇ |  |  |  | ＇0＇ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 迺 | 3 |  | 棠 |  | 1 | 営 |  |  | 2 | 営 |  |  | 2 | 営 |  |  | 2 | 営 |  |
|  | 営 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  | 営 |  |  |  |  | 兑 |  |  |  |  |  |  |  |
|  |  | 棠 |  | 2 | 㖓 |  |  | 1 | 棠 |  |  | 1 |  |  |  |  | 棠 | 2 | 㖓 |
|  |  |  |  | 営 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  | 棠 | $2$ | 営 |  |  |  |  | 営 |  |  |  |  |
|  |  |  |  |  |  | 棠 | $1$ |  |  |  | 2 | 㖓 |  |  | 2 | 棠 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  | 棠 |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |  |  | $1$ |  |  |  |  |  | 棠 |  |
| 棠 |  |  |  | 営 |  |  |  | 棠 |  |  |  | 吵 |  |  |  | 棠 |  | 3 | 棠 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 棠 |  |
|  |  | 㖓 |  |  |  |  | 棠 | $1$ |  | 兄 |  |  |  | 棠 |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 2 | 学 |  |  |  |  |
|  |  |  | 㖓 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 棠 |  | 1 |  | 棠 |  |  |  | 光 |  |  |  | 営 |  |  |  | 㖓 |  |  |
| 棠 | $2$ |  |  | 棠 | $3$ | 営 |  |  | 2 | 关 |  |  | 1 |  |  | 韑 | 4 | 営 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 棠 |  |  |
|  |  |  | 棠 |  |  |  |  | 棠 |  |  |  | 染 |  |  | 営 |  |  | 1 |  |
| 1 | 営 |  |  | 1 | 棠 |  |  | 2 | 営 |  |  | 2 | 棠 |  |  |  |  | 棠 |  |

Place mines into some empty cells in the grid such that the numbers in the grid represent the number of mines in the neighboring cells, including diagonal ones.



Shade some cells in the grid, such that the shaded cells form a connected area via horizontal and vertical paths, and so that there are no $2 \times 2$ area of cells completely shaded. The remaining unshaded cells should form several connected islands. Each island should contain exactly one given number in the grid, and this number represents the number of cells of its corresponding island.


Blacken some of the cells to find out the hidden figure. The numbers on the sides of the grid give the number of black cells in each black stretch in a certain row or column, in order. The black regions are separated by one or more empty cells.

## 1



|  | 1 | 4 5 | $15$ | 16 1 | 15 2 | 2 5 | 1 5 | 1 | 2 | 1 | 4 210 4 | 01 117 | 2 | 2 3 | 1 5 3 | 16 | 8 | 16 | 5 3 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 132 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2212 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $2 \begin{array}{llll}2 & 1 & 1 & 3\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 533 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 535 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 435 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{llll}3 & 3 & 5\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{llll}3 & 3 & 5\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 331 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 3 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 3 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}3 & 6 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}9 & 2 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{lllll}9 & 2 & 1 & 1\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{array}{llll}3 & 5 & 5 & 3\end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2653 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 19 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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Shade some cells black to form a continuous wall. There cannot be a $2 \times 2$ square of cells that are all shaded. Numbers in cells indicate the length of connected black cell groups in the neighboring cells; if there is more than one number in a cell, then there must be at least one white cell between each of the indicated black cell groups. Cells with numbers cannot be a part of the wall


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