

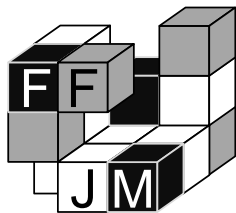
WPC French
Qualifier 2008

Part II

Name

- | | |
|----------------------|-----------|
| 1. Matches | 15 points |
| 2. Tents | 15 points |
| 3. Alternate corners | 15 points |
| 4. All alone | 15 points |
| 5. Fences | 25 points |
| 6. Skyscrapers | 25 points |
| 7. Minesweeper | 25 points |

Total: 135 points + time bonus (5 pts/minute)

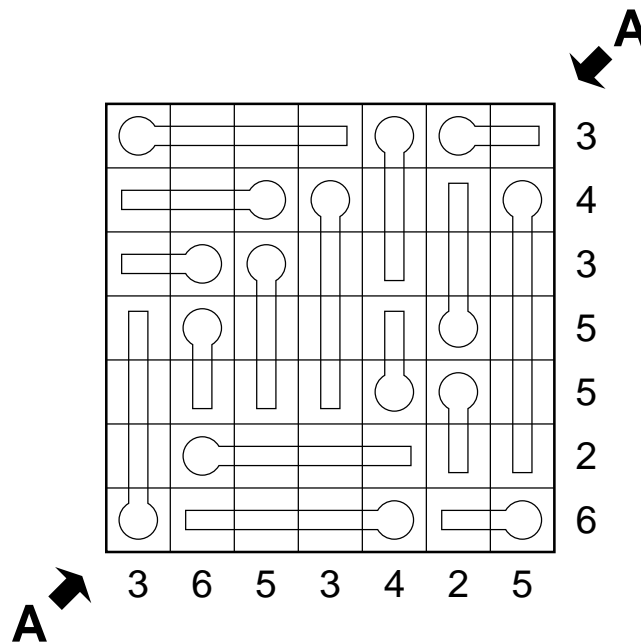


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Part II

1. Matches (15 points)

The grid contains matches, which can be completely burnt, partially burnt, or completely unburnt. The matches always burn from the head (rounded end) to the tail, without skipping any segments. The numbers around the grid indicate the number of burnt segments in the given row or column.



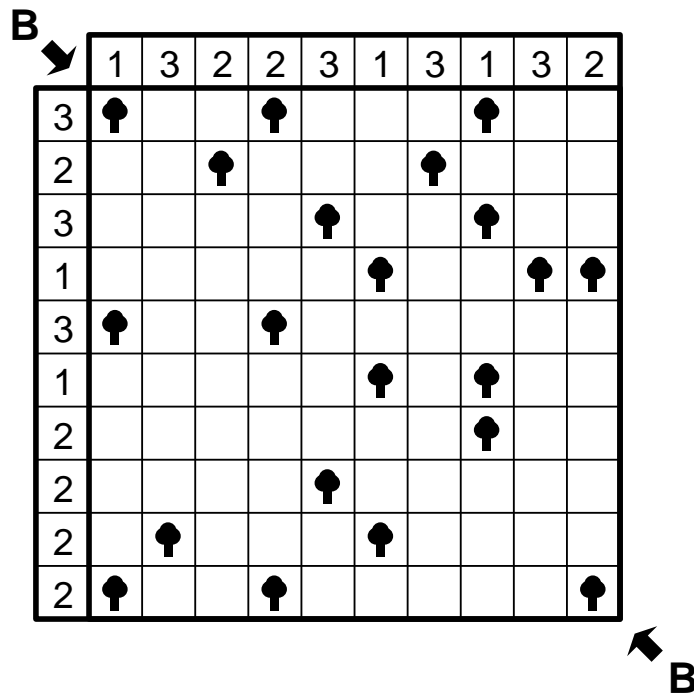
*A = number of burnt squares in the lower-left to upper-right diagonal.
(copy into Problem 5: Fences)*

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2. Tents (15 points)

Locate the tents in the grid. Each tree is connected to exactly one tent, found in a horizontally or vertically adjacent square. Tents do not touch each other, not even diagonally. The numbers outside the grid reveal the total number of tents in the corresponding row or column.



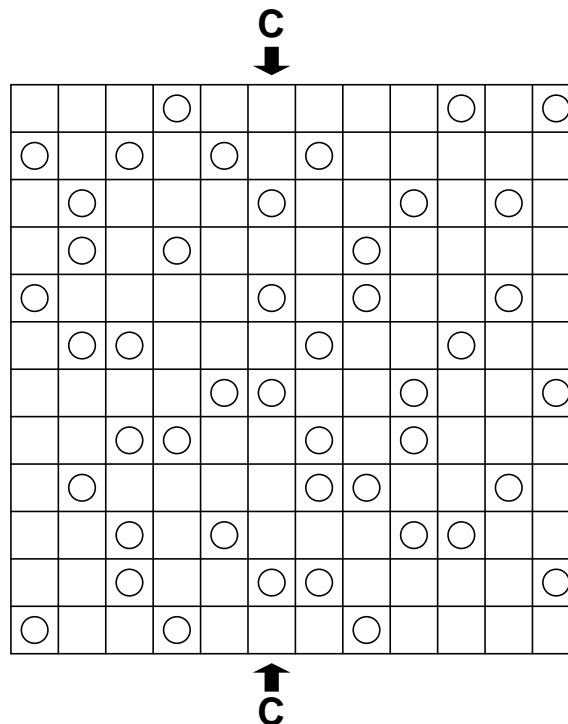
*B = number of tents in the upper-left to lower-right diagonal
(copy into Problem 5: Fences)*

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3. Alternate corners (15 points)

Draw a continuous loop in such a way that every second corner point should be in a square containing a circle. The loop crosses each square exactly once and must not intersect or overlap itself anywhere. The loop must turn when it passes through a square containing a circle.



$C = \text{length of the longest line segment in the sixth column}$
(copy into Problem 6: Skyscrapers)

(Note: the length is the distance between the consecutive corner points: for example, a segment joining two consecutive squares has length 1)

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4. All alone (15 points)

Black out some of the numbers in the grid so that each row and each column contains only different digits. Black squares must not touch horizontally or vertically, and the remaining squares must all be connected to each other.

7	6	9	3	4	7	1	4	4		
7	9	8	6	5	2	3	7	4		
4	4	3	8	1	9	2	8	2		
8	2	8	9	7	9	4	6	5		
D →	1	3	9	4	1	8	3	5	1	← D
	5	3	4	7	8	6	9	7	3	
	4	8	7	5	3	6	6	7	7	
	3	3	6	5	4	5	8	2	9	
	9	5	7	8	6	2	2	8	1	

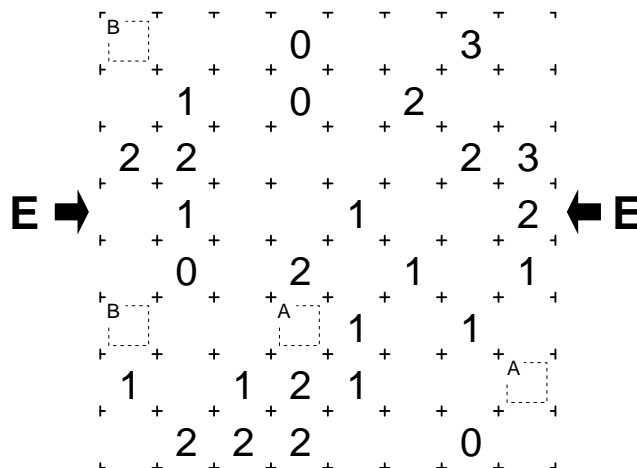
D = number of black squares in the fifth row

(copy into Problem 6: Skyscrapers)

5. Fences (25 points)

Draw a single continuous loop by connecting neighboring dots horizontally or vertically (but not diagonally). A numbered square indicates exactly how many of its four edges are used by the loop.

Replace each letter **A** by the value from **Problem 1: Thermometers**, and each letter **B** by the value from **Problem 2: Tents**.



*E = number of squares in the fourth row that lie inside the loop
(copy into Problem 7: Minesweeper)*

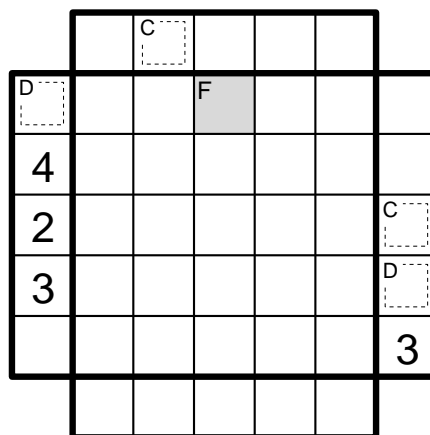
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6. Skyscrapers (25 points)

The grid symbolizes a group of skyscrapers. Each row and column contains skyscrapers of different heights (1-5). The numbers outside the grid indicate how many skyscrapers are visible from that direction (a building located behind a taller one in the same row is completely hidden).

Replace each letter C by the value from Problem 3: Alternate corners, and each letter D by the value from Problem 4: All alone.



*F = height of the skyscraper in the middle square of the first row
(copy into Problem 7: Minesweeper)*

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7. Minesweeper (25 points)

There are **26** mines hidden in the diagram, at most one in a given square. The numbers inside the diagram indicate the number of mines that can be found in the squares immediately adjacent to that square (horizontally, vertically, or diagonally). Squares with a number do not contain mines.

Replace each letter **E** by the value from **Problem 5: Fences**, and each letter **F** by the value from **Problem 6: Skyscrapers**.

	2		3					
F			4			3		0
2			E	3			0	
	4					2		
2					4			
	4				4	3	3	
	E	2						
	3						2	F
				2		0		