Polyglot

Solution

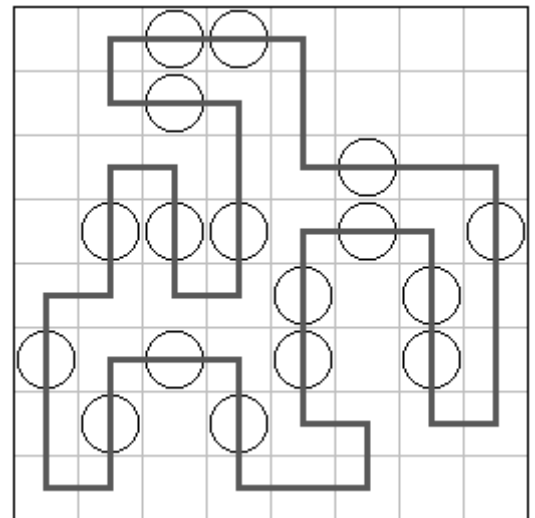|	Grid 1	Grid 2	Grid 3	Grid 4	Grid 5	Grid 6	Grid 7	Grid 8
Sun and Moon	E	P	L	H	U	I	G	N
Signal Loop	N	G	E	O	E	Y	E	T
Statue Park	A	I	C	D	R	A	R	T
Masyu	E	H	T	R	V	G	O	O
No Four In A Row	S	I	D	D	E	T	S	C
Black and White	N	M	R	U	A	I	T	O
Antisignal Loop	L	P	H	E	N	T	O	S
Not Alone	A	T	O	O	U	D	R	R

Each grid can be attempted under each genre. There are 10 combinations that give unique solutions, marked gray to the left, which spells HETEROMINO. This is the name of another puzzle genre; upon solving the main grid as a Heteromino, the centers of regions spell PIETA DAVID SCULPTOR which is the answer **MICHELANGELO**.
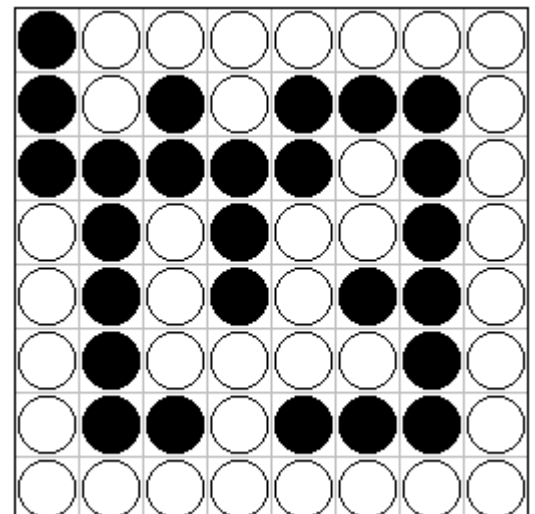
Grid 1

Grid 1 is uniquely solvable as a Masyu. It has multiple solutions under Signal Loop, Statue Park, and No Four In A Row, while it has no solutions under Sun and Moon, Black and White, Antisignal Loop, and Not Alone.
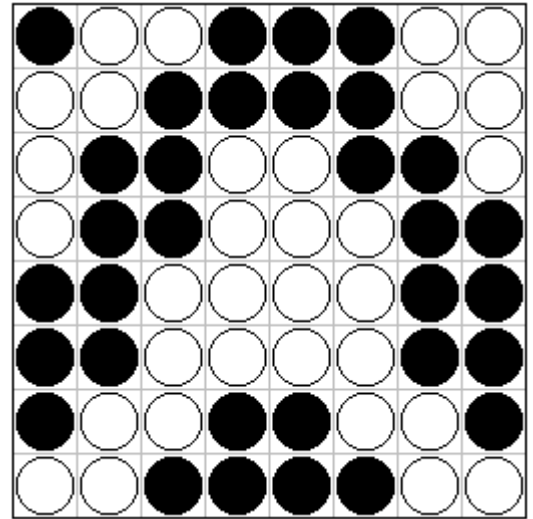

Grid 2

Grid 2 is uniquely solvable as a Black and White. It has multiple solutions under Statue Park, Masyu, No Four In A Row, and Not Alone, while it has no solutions under Sun and Moon, Signal Loop, and Antisignal Loop.
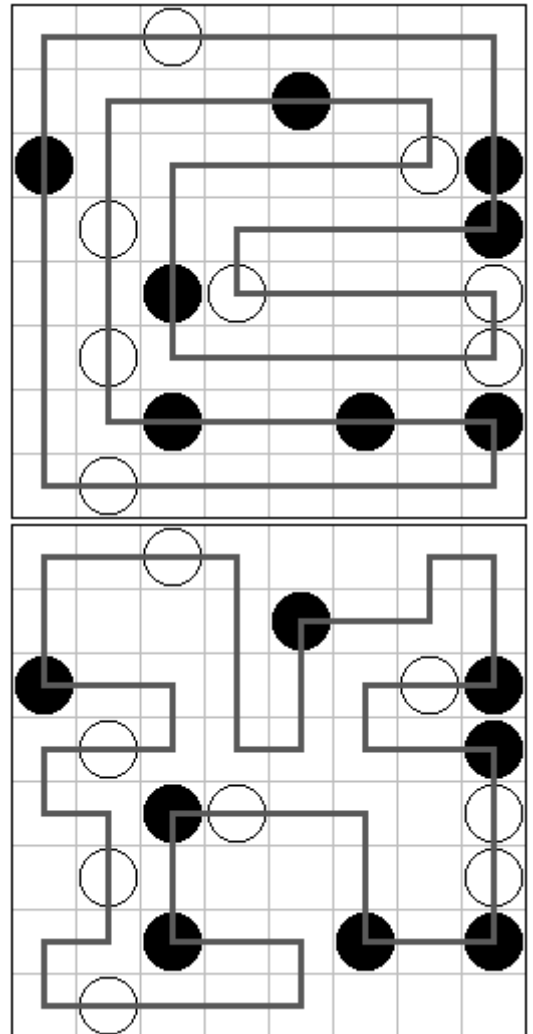
Grid 3

Grid 3 is uniquely solvable as a Not Alone. It has multiple solutions under Statue Park, Masyu, No Four In A Row, and Black and White, while it has no solutions under Sun and Moon, Signal Loop, and Antisignal Loop.
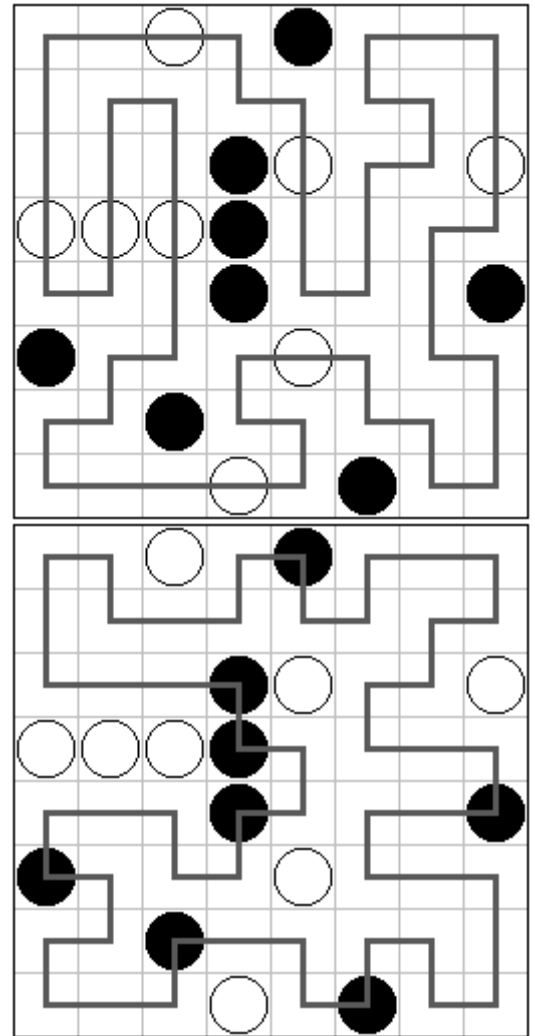

Grid 4

Grid 4 is uniquely solvable as a Sun and Moon and as a Masyu. It has multiple solutions under Statue Park and No Four In A Row, while it has no solutions under Signal Loop, Black and White, Antisignal Loop, and Not Alone.
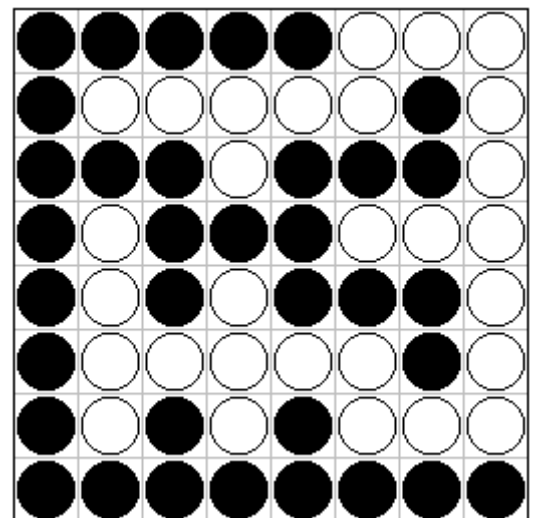
Grid 5

Grid 5 is uniquely solvable as a Signal Loop and as an Antisignal Loop. It has multiple solutions under Statue Park and No Four In A Row, while it has no solutions under Sun and Moon, Masyu, Black and White, and Not Alone.
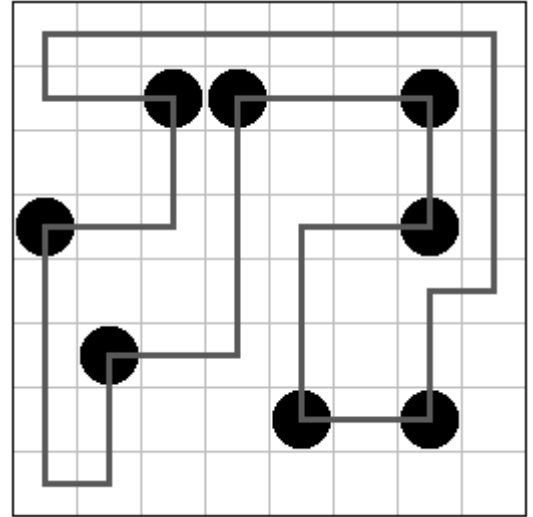

Grid 6

Grid 6 is uniquely solvable as a Black and White. It has multiple solutions under Statue Park, No Four In A Row, and Not Alone, while it has no solutions under Sun and Moon, Signal Loop, Masyu, and Antisignal Loop.
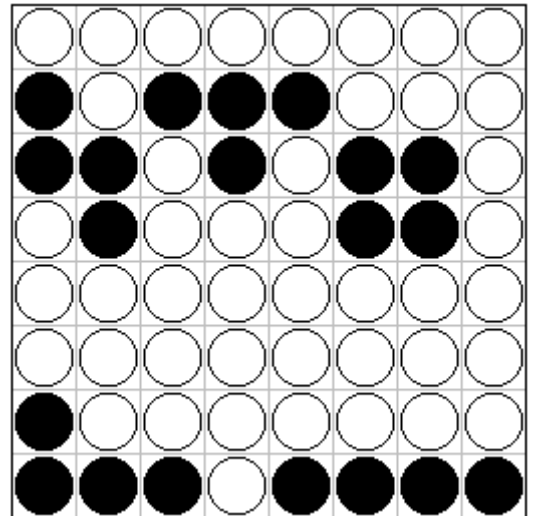
Grid 7

Grid 7 is uniquely solvable as a Masyu. It has multiple solutions under Statue Park, No Four In A Row, Black and White, and Antisignal Loop, while it has no solutions under Sun and Moon, Signal Loop, and Not Alone.

Grid 8

Grid 8 is uniquely solvable as a Statue Park. It has multiple solutions under No Four In A Row, Black and White, and Antisignal Loop, while it has no solutions under Sun and Moon, Signal Loop, Masyu, and Not Alone.

Trivia and other silliness

- Yes, there's no No Four In A Row. The author finds constructing that genre too difficult.
- Initially, the author attempted to make the puzzles to have symmetric givens or otherwise striking aesthetics. This proved to be too difficult especially with puzzles that should work under multiple genres, and thus was ditched quickly. Grid 5 has remains of the attempt, with the border circles being antisymmetric.
- Most grids have circles of one color only (this is an extension from above, after finding symmetric givens don't work). Notable exceptions are the middle four grids (Grids 3-6); indeed, Grids 3-5 has no theme, but can you spot the theme in Grid 6?
- The leftover letters in the main grid, when rotated 45 degrees clockwise and read (diagonals from bottom-left to top-right, starting from top-left to bottom-right), give ENGLISH COUNTRY GARDEN and THE GREAT OUTDOORS, the titles of two rounds in World Puzzle Championship 2014. Hopefully no team gets this while solving, since reading horizontally (for PIETA DAVID SCULPTOR, which clues the answer) should make more sense than reading diagonally.

Tips to avoid testing everything

Here are some tips that can help eliminating many candidates, thus making the work faster.

In Sun and Moon, if a corner is not filled, then the first circle met along the row and the first circle met along the column (for example, the leftmost circle in top row and the topmost circle in first column for top-left corner) must have different colors. This is because the corner must be reached by the loop, and so it must turn there, and thus the loop must go straight from the corner in both directions until it meets a circle and these two circles must differ in color. This eliminates all but Grid 4 as a Sun and Moon candidate.

In Signal Loop, there must be an even number of black circles. Similarly, in Antisignal Loop, there must be an even number of white circles. Color the grid in checkerboard fashion; the loop always changes colors when it goes into a new cell, and since it makes a loop, the number of cells visited of each color must be equal (otherwise the loop ends are stranded in the color visited more times). In fact, this allows more: the even number of black/white circles must be distributed such that the number of those in the black squares (on the coloring of the chessboard) must be equal to the number of those in the white squares. This eliminates Grid 2, Grid 3, Grid 6, and Grid 8 as a Signal Loop, and Grid 1, Grid 2, Grid 3, and Grid 4 as an Antisignal Loop.

In Signal Loop, a square cannot have less than two squares without a black circle around it, unless the square itself has a black circle. An analogous situation applies for Antisignal Loop with white circles. In addition to the above, this eliminates Grid 4 as a Signal Loop and Grid 6 as an Antisignal Loop.

In Black and White, the borders must be made of a contiguous segment of black circles and a contiguous segment of white circles; there cannot be two separate segments of both colors. If there are two separate segments of both colors on the borders, the black circles must be joined across the middle, but this cuts off the white circles. This eliminates Grid 4 and Grid 5 as Black and White.

Some puzzles are way more restrictive than others. For example, Sun and Moon is very restrictive as it needs to visit all cells with only a limited number of turns; in fact, we manage to eliminate all but one grid with a single deduction above. When there are few black circles and not many white circles, Statue Park is not restrictive; in fact, it's easy to pack the tetrominoes into Grid 2 with plenty of room to spare (and thus plenty of room for the tetrominoes to be rearranged), making it to have multiple solutions. The same applies for Grid 1 although with some difficulty. No Four In A Row is extremely not restrictive; one can easily fill the puzzle grids with almost anything with only slight problems, and even then they usually will arrive at 2-3 remaining squares that can be filled in two or more ways. This already proves that the combination has multiple solutions and hence doesn't work.

These tips are helpful, but not necessary. Of course, as this is a puzzle in a team-based puzzle hunt, the intended solution is to divide the work to several people, most likely 2-4 people each solving under 2-4 genres.