

# 數牆 Nurikabe

Nurikabe is a logic puzzle with a grid of squares. Some cells of the grid contain numbers. The objective is to determine whether each of the cells of the grid is "black (wall)" or "white (room)".

Rules:

- 1) Each number represents one room;
- 2) Rooms cannot be connected. (rooms diagonal to each other are not counted as connected);
- 3) Each number must be part of the room, which is composed only of white cells;
- 4) The black cells (wall) must all be orthogonally continuous (form a single polyomino) and number-free;
- 5) No 2x2 or larger solid rectangles formed with black cells (wall) are allowed.

Sample:

4				1
4				1
				1

4				1
4				1
				1

The cells surrounding '1' must be wall.

4				1
4				1
				1

Walls must be connected.

4				1
4				1
				1

The cell between two numbers must be one.

4				1
4				1
				1

Since the wall, between two numbers, along the edge must be connected to other walls, the cell next to it must also be wall.

4				1
4				1
				1

The room '4' at the top left corner have only one possible shape. And walls are built surrounding it.

4				1
4				1
				1

Again, walls must be connected.

4				1
4				1
		*		
				1

'\*' must not be wall, otherwise a 2X2 square will be formed.

4				1
4				1
				1

The room '4' at the bottom left have only one possible shape. And walls are built surrounding it.