

Futoshiki

Description

Futoshiki is a puzzle game originated in Japan and the word futoshiki (sometimes spelt hutosiki) means inequality. The puzzle is played on a square grid. The objective of the game is to place the numbers such that each row and column contains only one of each digit.

Grid

The puzzle below is 4 x 4, so we must place 1 to 4 into it - if it was 5 x 5 we would need to place 1 to 5 into it, and so on.

Diagram illustrating a 4x4 Futoshiki grid with inequality constraints:

- Row 1: Four empty boxes.
- Row 2: Four empty boxes. An upward arrow is between the first and second boxes. A downward arrow is between the third and fourth boxes.
- Row 3: Four boxes. The first box is followed by a greater-than sign (>) and the second box. An upward arrow is between the second and third boxes. The fourth box contains the number 3.
- Row 4: Four empty boxes. An upward arrow is between the third and fourth boxes.

Look at the inequality signs. A less-than sign, $<$, means that the number it points at must be less than the number on the other side of the sign. Turned around the other way it becomes a greater-than sign, $>$, but the logic is still the same - the number it points at is smaller than the number on its other side.

Rules

- In a $N \times N$ puzzle the range of #'s must be between 1 and N .
- No digit is repeated with in row or column. No duplicates.
- Inequality constraints must be honored: $5 > 4$, $5 > 3$, or $1 < 4$.

