

## E04 Futoshiki Puzzle ( Forward Checking)

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19214808 Yikun Liang

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# 1 Futoshiki

Futoshiki is a board-based puzzle game, also known under the name Unequal. It is playable on a square board having a given fixed size ( $4 \times 4$  for example).

The purpose of the game is to discover the digits hidden inside the board's cells; each cell is filled with a digit between 1 and the board's size. On each row and column each digit appears exactly once; therefore, when revealed, the digits of the board form a so-called Latin square.

At the beginning of the game some digits might be revealed. The board might also contain some inequalities between the board cells; these inequalities must be respected and can be used as clues in order to discover the remaining hidden digits.

Each puzzle is guaranteed to have a solution and only one.

You can play this game online: <http://www.futoshiki.org/>.

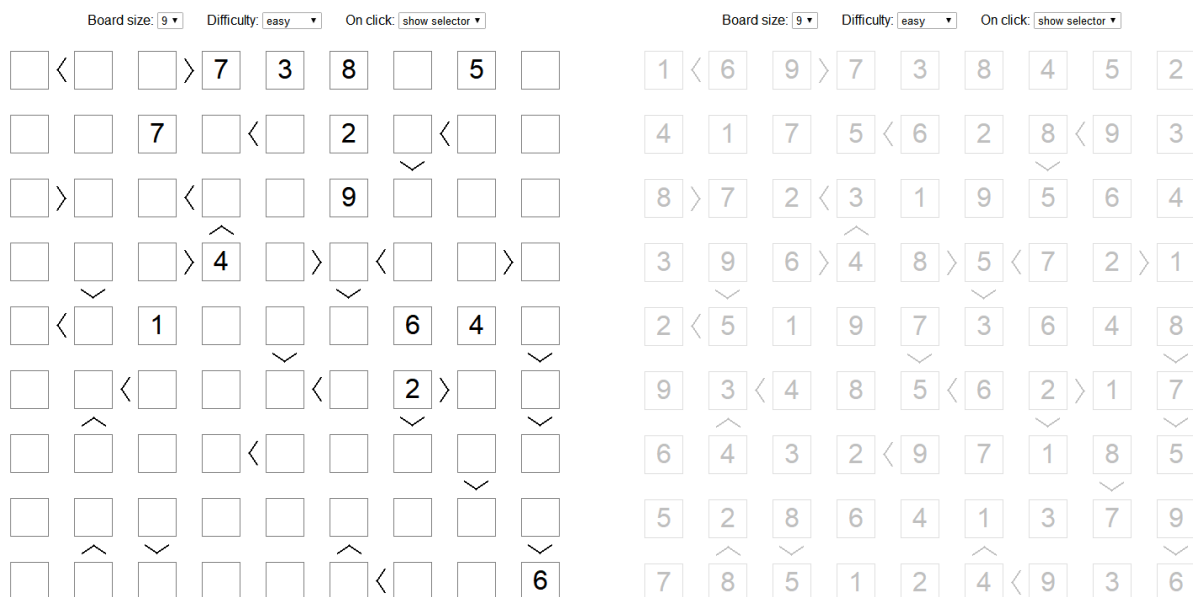


Figure 1: An Futoshiki Puzzle

# 2 Tasks

1. Please solve the above Futoshiki puzzle ( Figure 1 ) with forward checking algorithm.
2. Write the related codes and take a screenshot of the running results in the file named E04\_YourNumber.pdf, and send it to ai.201901@foxmail.com.

### 3 Codes

### 4 Results