
# Water Tower Puzzle

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# Original Puzzle

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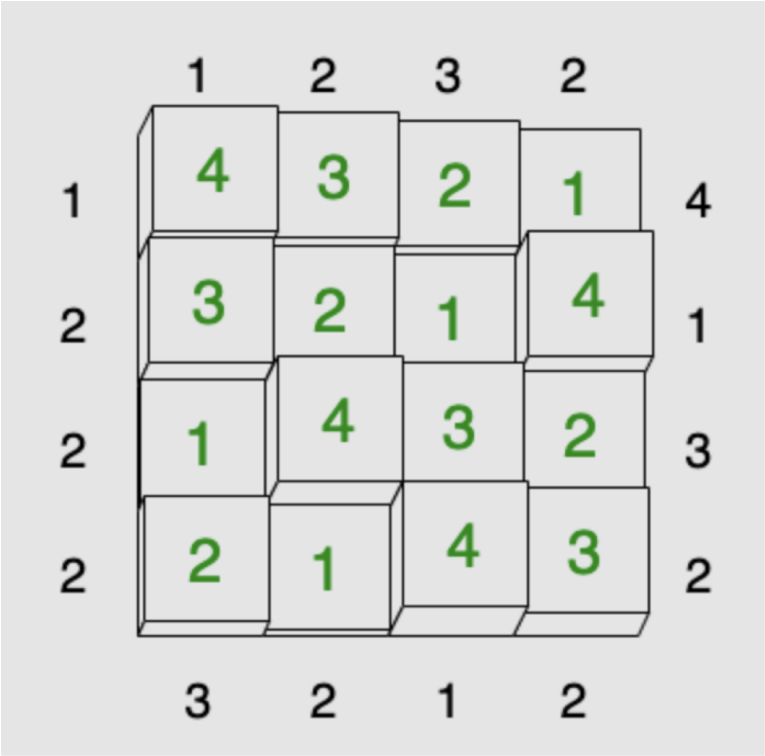


## Rules:

Fill in the grid with towers whose heights range from 1 to the grid size.

Every possible height appears exactly once in each row and column.

Each clue around the edge counts the number of towers that are visible when looking into the grid from that direction.

For example, the building in the lower-left corner could be seen from the left side but cannot be seen from the right side because it is hidden behind the buildings 4 and 3 in the same row.


# Puzzle Variant

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```
# water tower = 1 tower height sum = 4
   2 1 4 2
2 |- - - -| 2
2 |- - - -| 4
3 |- - - -| 1
3 |- - - -| 2
   4 3 1 2
```

```
# water tower = 1 tower height sum = 4
   2 1 4 2
2 |3 4 1 2| 2
2 |4]3 2 1| 4
3 |2 1 3 4| 1
3 |1 2 4 3| 2
   4 3 1 2
```

## New Rules

**Add Water Tower**

A new type of building which is trasparent.

**The Number of Water Towers is Given**

**The Sum of Water Tower Height is Given**

E.g.: The building [4] is a transparent water tower with the height of 4.



**The water tower will only appear once in each row and column.**


# Algorithm Analysis

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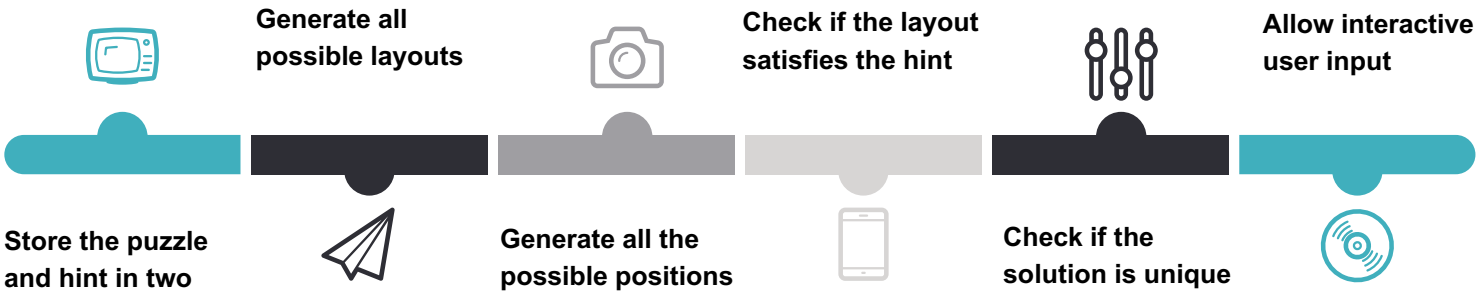


# Future Plan

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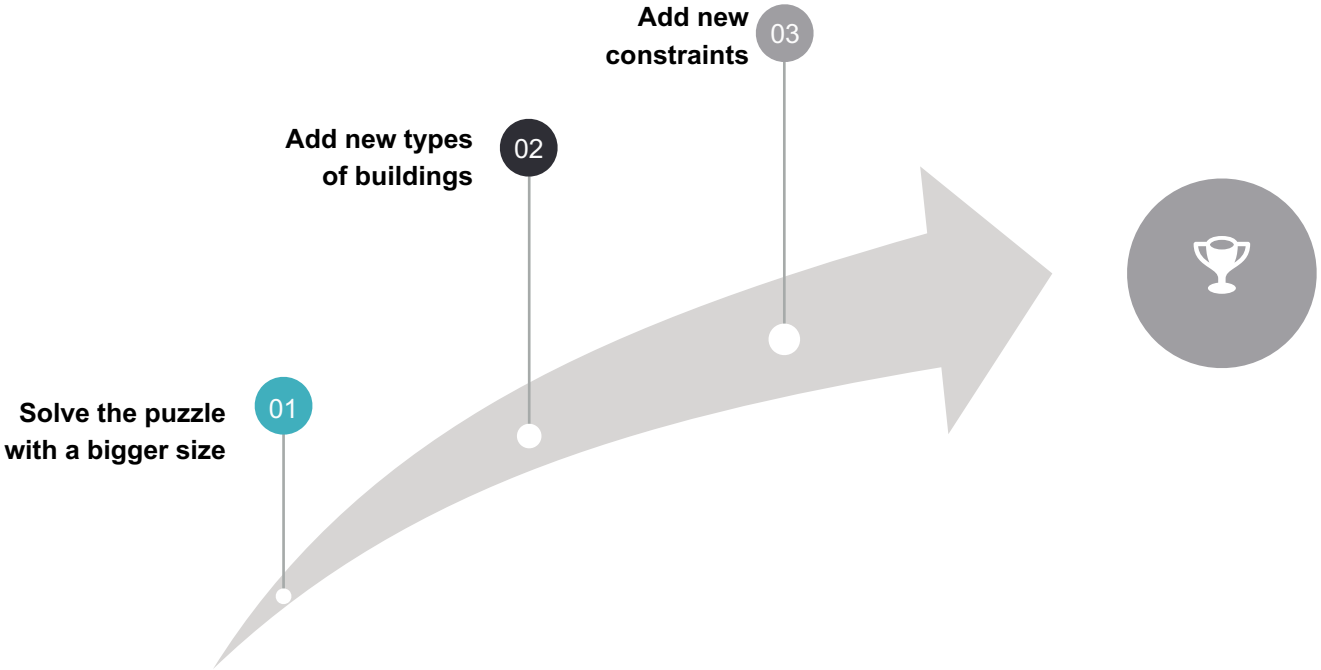
Add new constraints
03
Add new types of buildings
02
Solve the puzzle with a bigger size
01


# Thanks for your time!