# Skyscraper Ruleset

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# Introduction

- Skyscrapers is a building placing puzzle based on an NxN grid with some clues along its sides.

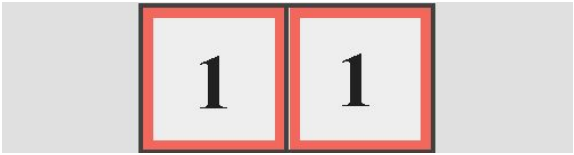
- The object is to place a skyscraper in each square, with a height between 1 and N, such that no two skyscrapers in a row or column have the same height.

- The number of visible skyscrapers, as viewed from the direction of each clue, is equal to the value of the clue.

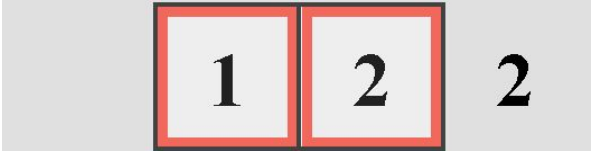
- Higher skyscrapers block the view of lower skyscrapers located behind them.

# Contradiction Rules without Case Rule Usage

- Duplicate Number → No row or column can have duplicate numbers



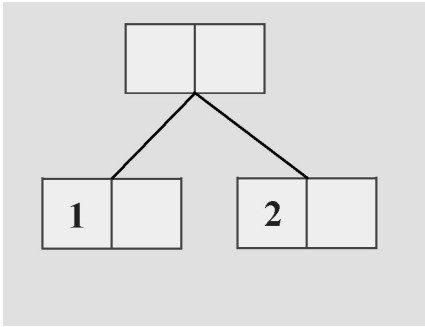

- Too Few Visible → Fewer visible skyscrapers than there should be on a full row or column



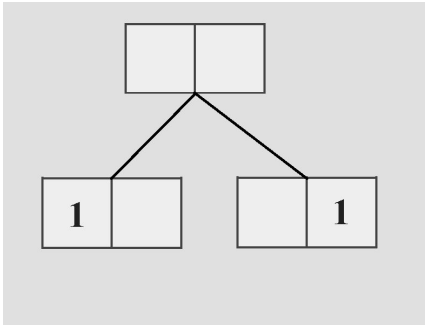

- Too Many Visible → More visible than there should be on a full row or column

# Case Rules

- Cell For Number → creates a branch in the proof for each possible location of the given number along the given row or column unless the location for that number creates a Duplicate Contradiction

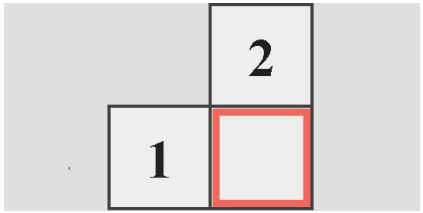



- Number For Cell → creates a branch in the proof for each possible value of the given cell unless the value for that cell creates a Duplicate Contradiction



# Contradiction Rules with Case Rule Usage

- Unresolved Cell → Number for Cell returns no cases

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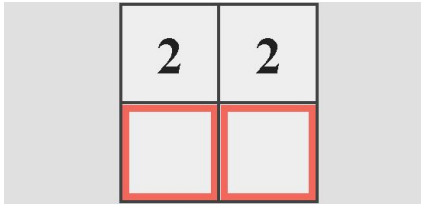


- Preemptive Visibility → a visibility contradiction is inevitable before a row or column is full

# Basic Rules

- N-Edge → when the value of the clue is N, numbers appear in increasing order from 1-N
- Last Non-Duplicate Cell → there is only one Cell for Number that does not create a Duplicate Contradiction
- Last Non-Duplicate Number → there is only one Number for Cell that does not create a Duplicate Contradiction
- Last Visible Cell → there is only one Cell for Number that does not create a Preemptive Visibility Contradiction
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