## **Non-State Data Struct**

Continuing on: Sudoku

- We'd defined neighborhoods
- Solved predicate: what does it mean for a board to be solved
  - Every row has every number represented in a column & v.v.
- To check that two predicates are equivalent:
  - Check that they imply each other (iff)
  - We can use the check syntax
  - What about when the predicates take arguments?
    - We might want to use a quantifier to talk about a board (some b: Board)
  - o If we're looking for a counterexample with run, we need to stick a not in there
  - Alternatively, we can use check
- We can now generate two boards:
  - One as the original puzzle
  - One as the solution for the sudoku puzzle
  - Specifying that these two boards are not the same speeds up the evaluator

Notice that when we don't find a counterexample: Forge says "Assertion may be valid"

- Only true up to some bounds
- Forge is still useful! it can look for some simple counterexamples
- It builds confidence