CS 171 Project Progress Report: Forward Checking

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1. Scope
   I have implemented the forward checking algorithm for solving the Sudoku problem.
2. Progress
   At this point, I have completed the backtrack search and the forward checking parts of the Monster Sudoku project. Other than those two sections, the only parts that have been changed are the representation of the puzzle in a File form. These changes can be seen in the SudokuFile.java and the BTSolver.java files.
3. Problems and Questions
   I still have the same problem regarding the rotation of the Sudoku puzzle after it has been solved. Although the puzzle is correct, it is rotated, so the results may differ from the tester's puzzle. In addition, I believe my forward checking algorithm is incorrect because the number of assignments it returns is less than the number of squares in the sudoku puzzle, but it outputs the Sudoku puzzle correctly. If I could get feedback on why it does this?
4. Results
   The above "number of assignments" issue.
5. Appendix

```
private boolean forwardChecking()
{
        for(Variable v : network.getVariables())
        {
                if(v.isAssigned())
                {
                        for(Variable vOther : network.getNeighborsOfVariable(v))
                        {
                                Domain d = new Domain(vOther.getDomain());
                                d.remove(v.getAssignment());
                                vOther.updateDomain(d);
                                if (vOther.getDomain().isEmpty())
                                {
                                        return false;
                                }
                        }
                }
        }
        return true;
}
```