**Overview**

Sudoku is a number placement puzzle based on a 9x9 grid with several given numbers. The object is to place the numbers 1 to 9 in the empty squares so that each row, each column, and each 3x3 box contains the numbers 1-9 only once.

The objective of this exercise is to develop a program that solves Sudoku puzzles by filling in the empty blanks without violating any of the constraints defined in the rules, above. Please implement your solution in Java or C# (as instructed by your recruiter or hiring manager).

**Requirements**

* Your solution should properly orient itself around OO/SOLID principles.
* Please implement your own solution. ***Referencing a library like SudokuSolver.dll or SudokuSolver.js is not acceptable.*** *The inclusion of libraries or packages for testing is acceptable and should be documented.*
* You will have to read in the starting board from a text file. There are five starting boards included with these instructions. *In these definition files, an ‘X’ represents an open cell and a number indicates a fixed starting value for a cell.*
* The contents of completed puzzles [“the solution”] should be output to a new file. The name of the completed file should follow the format of *{0}.sln.txt* where *{0}* is the name of the original input file.
* Include all supporting materials such as unit tests and/or documentation in your submission.

**Considerations**

* ***This exercise is not timed and you are not rewarded for a fast turnaround.*** *This exercise should be treated as any development task – code should be clean, robust and production-worthy. Ultimately, you should consider “Would I commit this to a repository for all to see?”*
* The conventions, standards, and best-practices of the language/technology you are utilizing should be adhered to.
* Thoughtful object-oriented design paradigms should be considered. Be prepared to defend your design choices and/or the details of your implementation.
* The solution should solve the given puzzles. In the event that a puzzle cannot be reasonably solved by your algorithm, the application should fail gracefully.

**Deliverables**

Your submission should be submitted as a link to a GitHub or GitLab repository - both services offer free accounts for hosting repositories. The repository should include the five original puzzles and their respective solutions in addition to your source code and any supporting material.