PROGRAMING EXAM

Development of a Java library for the game of chess:

Please develop this library according to the described tasks and test your results. Also, regard the priority in which the tasks are listed.

IMPORTANT: Please only do the tasks listed below. The Chess library does NOT need to be completed. Functionality for the rules of movement, checking of pieces, actual two player mode or some kind of bot/ki is NOT necessary in this exam.

Task
1. **Create the necessary Java classes to implement a chess board (e.g. ChessBoard.java, Piece.java, etc...)**
2. **Create the functionality to initiate a Chessboard. A board can be full (when the game starts) or somewhere in between while playing.**
3. **Create the functionality to read and parse the given txt files (located under src/test/resources), which represent different Chess situations.**
4. **Initiate the ChessBoard class by using your file parser class. Each of the given txt files should work.**
5. **Write at least 4 Unit tests to check that the functionality of reading the txt files and initiating the ChessBoard works (please use the 4 given txt files).**
6. **Create the functionality to write any ChessBoard situation to a txt file (in the file format as the given example files).**
7. **Please write at least 4 Unit tests to check that the functionality to write a ChessBoard to a txt file works correctly.**
8. **Add functionality to the ChessBoard to verify that only the correct number of pieces are added. For example: There are only 8 white pawns allowed...**
9. **Please write enough Unit tests to make sure that the ChessBoard is always completely verified. For example: An exception should be thrown when more than 8 white pawns are added to a ChessBoard.**

Source:

- Text file depicting a chess gameplay situation:
  - src/test/resource/chess-startup.txt
  - src/test/resource/chess-01.txt
  - src/test/resource/chess-02.txt
  - src/test/resource/chess-03.txt
- Rules of chess: https://www.chessvariants.com/d.chess/chess.html

Good luck!