# Refactoring Documentation for Project “GameFifteen”

Team “Chlorine”

1. Redesigned the project structure:
2. Changes in class **….**
3. Changes in class **GameFifteen**
   * Made various identifier name changes - indexer variables (i, j -> row, col), matrix identifiers, renamed Cyrillic names to their correct English counterpart, removed some unnecessary comments, changed row- and column-related names to expose their real usage
   * Fixed spacings around control structures, brackets, and array initializers.
   * Changes in the main game controller - magical numbers fixed, formatting and renaming, unclear naming fixed, unnecessarily complex control structures simplified and fixed
   * Introduced constants - game field size, number of players in the highscores table
   * Fixed output message errors (putted, invalid spacing, inconsistent or improper messages)
   * Changed some exceptions (e. g. ArgumentException for null game board should be ArgumentNullException) and fixed the expected exceptions in the unit tests to show that behaviour
   * Fixed about 250 Stylecop warnings (mostly whitespaces left where there shouldn't be any and wrong placement of brackets
   * Fixed method UpdateAndDrawBoard - does two things and accepts too many parameters
   * Refactored the Highscores class a little
   * Refactored the GameBoard class - too many instance methods
   * Added instances of Position class instead of integers wherever possible
   * Moved some methods which accept a board to the GameBoard class and made them instance methods
   * Fixed the console output throughout the game
   * Bug fix - the highscores do not print
   * Big fix - agter Good bye! nothing must be printed
   * Documented the public methods which lacked documentation
   * Added unit tests for the GameBoard class
   * Added exception handling for the GameBoard class
   * Made the GameBoard accept a string array as body