# Refactoring Documentation for Project “GameFifteen”

Cherokee

Team “Chlorine”

1. Redesigned the project structure:
   * Renamed the project to **GameFifteen**.
   * Renamed the main class **Game** to **GameFifteen**.
   * Extracted each class in a separate file with a good name:
     1. **Position.cs**
   * Full redesign of program to work with **GameBoard** class and not with static methods.
2. Changes in class **Position** 
   * Renamed constructor to **Position.**
   * Added **‘this’** to properties used in constructor.
   * Added private fields representing the properties.
   * Added checks for incorect values for properties in setters – negative values -> throw **ArgumentOutOfRange**.
   * Added comments to public members.
   * Added test pattern for **Position** class.
3. Changes in class **GameFifteen**
   * Rename old named **Pozicia** class references to new one **Position.**
   * Mehod **findPrazno** renamed to **FindEmptyCell** and moved to class **GameBoard.**
   * Extracted **Drawmatrica,** renamed to **Draw()** and moved to class **GameBoard.**
   * Extracted **Proverka,** renamed to **IsSolved** and moved to **GameBoard.**
   * Extracted **GenerateGameFild,** renamed to **GenerateFild** and moved to **GameBoard.**
   * Extracted FillOutGameField**,** renamed to FillOut and moved to **GameBoard.**
4. Changes in class **GameBoard**
   * New array representing game board coded as class with geter/setter, indexer.
   * Added readonly field for board size **GameBoardSize.**
   * Removed magic number in method **FindEmptyCell** (replaced with **GameBoardSize**).