# Sample Refactoring Documentation for Project “Baloons-Pop” Game

Team “Cadmium”

1. Redesigned the project structure:
   * Renamed the project **ingra\_baloni** to **BaloonsPopsGame**. Не е променено още
   * Renamed the main class **Program** to **BaloonsPopsGame**. Не е променено още
   * Extracted each class in a separate file with a good name: **BaloonsState.cs**, **GameState.cs**,
2. Reformatted the source code:
   * Removed all unneeded empty lines, e.g. in the methods – да се изброят методите
   * Inserted empty lines between the methods.
   * Split the lines containing several statements into several simple lines, e.g.:

|  |  |  |
| --- | --- | --- |
|  |  |  |
| **if (s != 0)**  **return false;** | **🡪** | **if (balloon != 0)**  **{**  **return false;**  **}** |
| **Class GameState** |  | **Class GameState** |
| **if (first && second)**  **sendCommand(fst, snd);** |  | **if (isRowNumber && isColNumber)**  **{**  **SendCommand(row, col);**  **}** |
| **Class BallonsState** |  | **Class BallonsState** |
| for (int i = 0; i < 6; i++)  {  Console.Write(i.ToString() + " | ");  for (int j = 0; j < 10; j++)  Console.Write(pr(poleto[i, j]) + " ");  Console.WriteLine("| ");  } |  | for (int i = 0; i < Rows; i++)  {  Console.Write(i.ToString() + " | ");  for (int j = 0; j < Cols; j++)  {  Console.Write(GetBalloon(BalloonField[i, j]) + " ");  }  Console.WriteLine("| ");  } |

* + Formatted the curly braces **{** and **}** according to the best practices for the C# language.
  + Put **{** and **}** after all conditionals and loops (when missing).
  + Character casing: variables and fields made **camelCase**; types, methods and classes made **PascalCase**.
* class **baloonsState** -> **BaloonsState**
  + Formatted all other elements of the source code according to the best practices introduced in the course “[High-Quality Programming Code](http://codecourse.telerik.com/)”.

1. Renamed variables:
2. In class **GameState**
   * + - **\_\_st -> currentBalloonState;**
       - method **displayScoreboard() -> DisplayScoreboard();**
       - method **executeCommand(string s) -> ExecuteCommand(string command)**
       - method **sendCommand(int fst, int snd) -> SendCommand(int row, int col)**
       - method **updateScoreboard(); -> UpdateScoreboard()**
       - method **restart(); -> Restart()**
3. In class **BaloonsState**

* class **baloonsState - > class BaloonsState**
* **poleto -> BalloonField**
* **cnt -> TurnCount**
* constructor **baloonsState -> BaloonsState()**
* method **printArray() -> DrawBalloonField();**
* method **pr(int a) -> GetBalloon(int color)**
* **popBaloon(int x, int y) -> PopBaloon(int x, int y)**
* **kraj() -> CheckForEnd()**

1. Introduced constants:
   * readonly static int Rows = 6; по условие **10 x 5** (5 rows and 10 columns), трябва да се коригира константата
   * readonly static int Cols = 10;
2. Extracted the method **GenerateRandomGame()** from the method **Main()**.
3. Introduced class **ScoreBoard** and moved all related functionality in it.
4. Moved method **GenerateRandomNumber(int start, int end)** to separate class **RandomUtils**.
5. Create new method **MoveDownBalloons**(int x, int y, int left, int right, int top, int bottom) in class **BaloonsState**