# Sample refactoring documentation for Project

# “Game Labyrinth-1”

Team “Labyrinth-1”

1. Redesigned the project structure

* Renamed the main class Program to GameLabyrinth
* Extracted each class in a separate file with a good name: Playfield.cs, GameDialog.cs, LabyrinthEngine.cs, LabyrinthFactory.cs, Directions.cs, Scoreboard.cs, Player.cs
* Extracted interfaces in a separate file with a good name: IPlayfield.cs, IGameDialog.cs, ILabyrinthEngine.cs, ILabyrinthFactory.cs, IPlayer.cs, IScoreboard.cs
* Extracted tests in a separate file with a good name: GameLabyrinthTests.cs

1. Reformatted the source code

* Removed all unneeded empty lines
* Inserted empty lines between the methods.
* Split the lines containing several statements into several simple lines
* Formatted the curly brackets according to the best practices for the C# language
* Character casing: variables and fields made camelCase; types and methods made PascalCase
* Formatted all other elements of source code according to the best practices introduced in the course HQC

1. Introduced constants

* DEFAULT\_X\_POSITION = 3
* DEFAULT\_Y\_POSITION = 3
* PLAYFIELD\_SIZE =7
* INVALID\_MOVE\_MESSAGE = "Invalid move!"
* INVALID\_COMMAND\_MESSAGE = "Invalid command!"
* ENTER\_MOVE\_MESSAGE = "Enter your move (L=left, R=right, U=up, D=down): "
* INTRO\_MESSAGE = "Welcome to \"Labyrinth\" game. Please try to escape. Use 'top' to view the top scoreboard, 'restart' to start a new game, 'save' to save current position, 'load' to load last saved position and 'exit' to quit the game."
* WINNER\_MESSAGE = "Congratulations! You escaped in {0} moves.\nPlease enter your name for the top scoreboard: "

1. Extracted all classes from the method Main() in a separate file
2. Introduced class Playfield and moved all related functionality in it.
3. Introduced class Player and moved all related functionality in it.
4. Introduced class GameDialog and moved all related functionality in it.
5. Introduced class Scoreboard and moved all related functionality in it.
6. Introduced class Memento to enable game saving.
7. Introduced class LabyrinthEngine to create objects related with the game.
8. Introduced class GameLabyrinth which start the game.