Mobile Applications 2014/2015

BowlTrayGame

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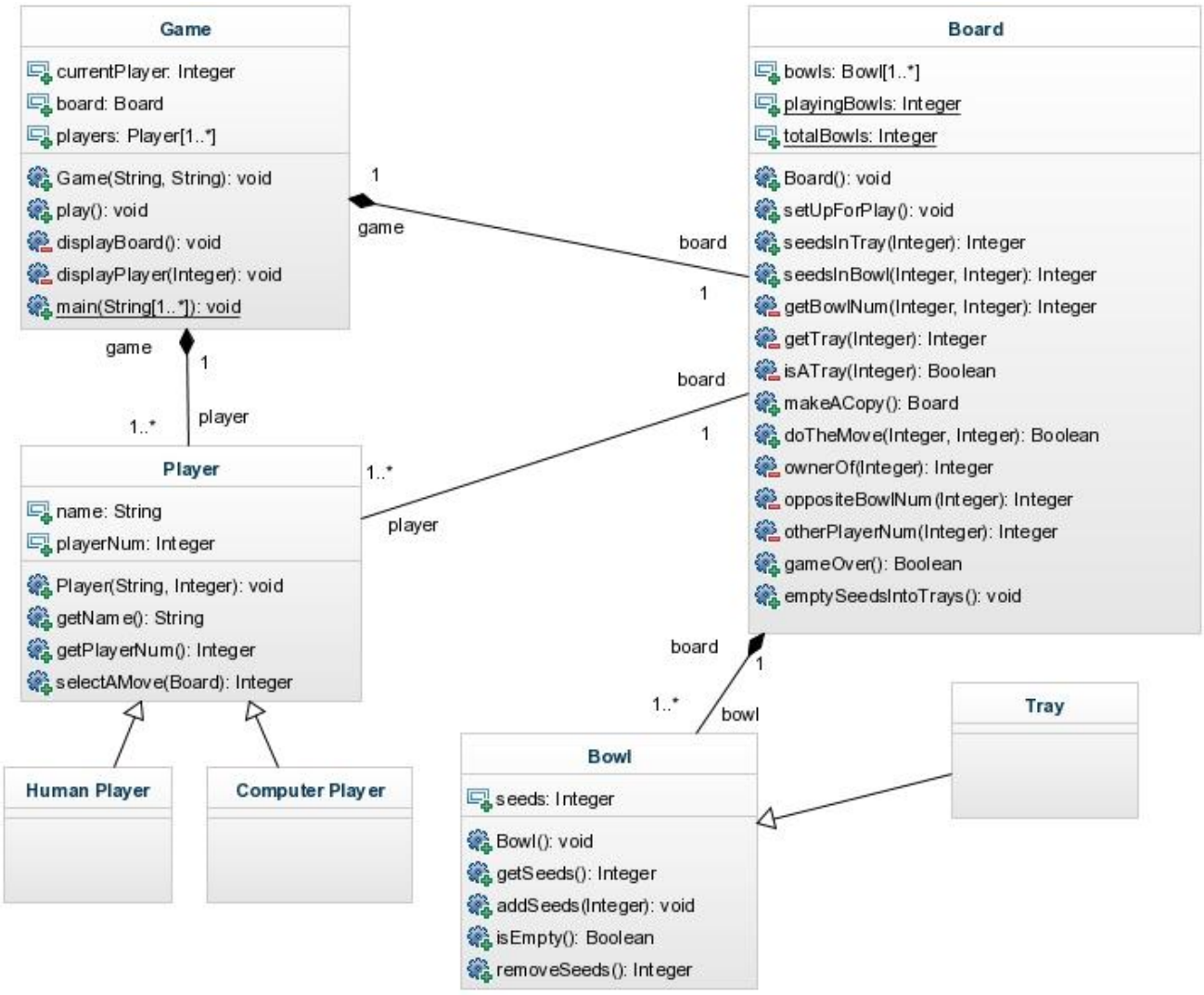
A ) Description of the document:

This is the document for the first release of a board game called “Bowls and Trays” according to the given rules. In this document, following sections are addressed: Class Diagram, Test Configurations

B ) Class Diagrams:



There are four major classes in the game:

B-1 ) Game: This class performs as a main class to start and end the game. Also calls other classes needed for running the game

B-2 ) Board: This class initializes the board and performs the moves. This class realizes if the player can move again or if capture rule is happened. This class also realizes if the game is over.

B-3 ) Player: This class performs actions of the players in the game. There are two types of players in this game. One is human player and the other one is computer player. For this version, computer payer has a simple AI to allow performs a single game with H-C.

B-4 ) Bowl: This class performs actions of the containers. Containers consist of two types. One is Bowls and one is Trays. The actions of both consist of adding and removing seeds also get number of seeds in both and check if they are empty.

The above figure, shows the class diagram in UML.

C ) Test:

As a test, I have implemented the whole game as a Java Application, can be played with consul in Eclipse and enter the numbers through the keyboard. Numbers represented the bowls so the moves performed and the new board will be shown. As a test configuration I tested the following criteria:

1 ) moving the seeds from player's bowl in Counter clock wise circle.

2 ) configuring a state in which the player should move again and it answered perfectly right.

3 ) configuring a state in which the player captures opponent's seeds and it answered perfectly right.

4 ) configuring a state in which the player has many seeds in a bowl and therefore in the circle he should not put the seed in opponent's tray and it answered perfectly right.

5) configuring a state in which a player has no seed to move and the game understands it perfectly and moves all remains seeds into the Tray and decides the winner.

6) checking the computer has a good AI and returns best move in a greedy way. The move is the best move if this move obtains the more seeds in the tray compare to the other possible moves.