

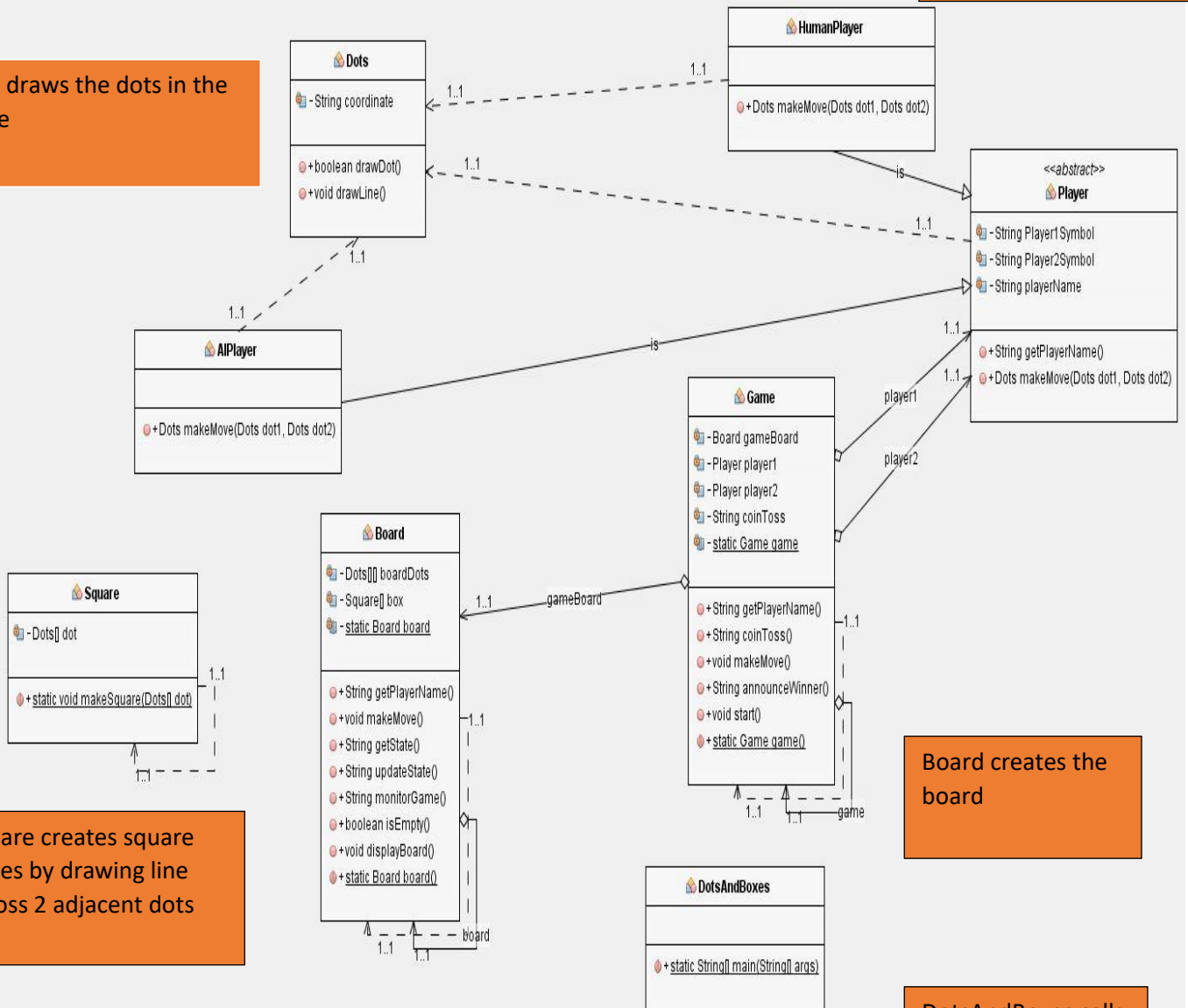
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TITLE: ASSIGNMENT 2 – DESIGN DOTSANDBOXES CLASS DIAGRAM USING GRASP PATTERN

TOOL: EASYUML PLUGIN– NETBEANS IDE

HumanPlayer and
AIPlayer inherits
Player

Dots draws the dots in the
game



Board creates the
board

Square creates square
boxes by drawing line
across 2 adjacent dots

DotsAndBoxes calls
game to create the
game

CREATOR:

Board: Dots object draws dots and the Square class create square objects if lines are drawn across 2 adjacent dots. Board contains the array of dots and squares. Board is assigned the responsibility of creating the arrays of dots and squares that will be on the board.

Game: The game will contain the board and players. Game object is assigned the responsibility to create all the pieces that make up the game.

INFORMATION EXPERT:

In order for Game and Board Object to do their work, they will have the information (data) in order to instantiate objects. Game will make all the pieces in the game. Board will make dots and squares.

The information expert will ask the end user for input data thereby not forcing the end user to create the objects. Board has a displayBoard() which will prompt the user for dimension of the board space.

SINGLETON PATTERN

There will be one instance of board and game. The Board object will be created in Board, and Game will be created in game. The classes have static instance variable to store its object.

POLYMORPHISM

The HumanPlayer and AIPlayer will inherit Player. This can create capability of a multiplayer game. Game played by more than 2 users.

LOW COUPLING

Instead of creating different player class for multiplayer game mode. The Player class prevents low coupling by being a blue print for new Player objects (Human and AI)