System Requirements:

1. At game initialization a 4x4-cell game board and a collection of 16 unique game pieces with 4-binary characteristics should be generated.
2. The user shall then have a choice of selecting to play the game in either human player vs human player, human player vs AI player or AI player vs AI player game mode
3. If selecting either AI gameplay, the user shall have the choice of three different AI difficulty levels
4. The first player turn shall be decided by random selection
5. A player shall decide which game piece the other player places on the game board by selecting one piece from the collection of available unique game pieces
6. Every selected game piece by a player shall be removed from the collection of available unique game pieces
7. When a piece has been selected by a player the current player turn should change to the other player
8. A player that has a piece selected for them will choose an available cell on the game board that does not have any other piece allocated to it for placing the selected piece on when it is the turn of that player
9. If immediately following the piece being placed on the board that there are four pieces on the board in a row in either a horizontal, vertical or diagonal direction each with at least one similar characteristic to the other three then the current player should win the game
10. If the gameplay is AI player vs AI player, then only the result of the game should be displayed and not the gameplay
11. If the gameplay is either human player vs human player or human player vs AI player, then the gameplay and the result of the game should be displayed
12. If there are not any four pieces in a row with at least one similar characteristic, then the game play repeats from step-5 with the current player turn remaining as the player turn
13. If there are not any game pieces left available for selecting from the collection of unique game pieces and the board has no available cells for placing a game piece on, then the game should result in a draw