|  |  |
| --- | --- |
| void Server() |  |
| Input | void |
| Output | void |
| Description | Constructor for Server, empty function. |

|  |  |
| --- | --- |
| void StartListening () |  |
| Input | void |
| Output | void |
| Description | Opens socket and begins listening for clients. When a client is accepted, input received from client is sent to AsyncCallback. |

|  |  |
| --- | --- |
| void AcceptCallback(IAsyncResult ar) |  |
| Input | IAsyncResult - state information pertaining to this asynchronous operation |
| Output | void |
| Description | Creates a stateObject for the current socket, creates new UniqueSocket and gives this a UID. Once there are 2 users connected, they are added to a room together to play a game of Sunset Checkers |

|  |  |
| --- | --- |
| void ReadCallback(IAsyncResult ar) |  |
| Input | IAsyncResult - state information pertaining to this asynchronous operation |
| Output | void |
| Description | Reads string received from client. This string contains the move that the user made during their turn. |

|  |  |
| --- | --- |
| void Send(IAsyncResult ar) |  |
| Input | Socket – socket to send string to  String – string of data to be sent to the client |
| Output | void |
| Description | Converts string to byte data (using ASCII encoding). Uses BeginSend to send data |

|  |  |
| --- | --- |
| void SendCallback(IAsyncResult ar) |  |
| Input | IAsyncResult - state information pertaining to this asynchronous operation |
| Output | void |
| Description | Finishes sending data to client. Calls EndSend and prints the number of bytes sent to the client. |

Room:

|  |  |
| --- | --- |
| void Room() |  |
| Input | void |
| Output | void |
| Description | Constructor for Room, empty function. |

|  |  |
| --- | --- |
| void Room(UniqueSocket player\_1, UniqueSocket player\_2) |  |
| Input | UniqueSocket – class that contains a user’s UID and room UID |
| Output | void |
| Description | Constructor for Room, sets player\_1 and player\_2 to 2 unique clients that have connected to the server. |

|  |  |
| --- | --- |
| void send\_to\_opponent() |  |
| Input | void |
| Output | void |
| Description | Sends one user’s move to their opponent to update the opponent’s board |

r\_UID = room uid

|  |  |
| --- | --- |
| void UniqueSocket(int UID, Socket socket) |  |
| Input | int UID – generated UID for given client  Socket socket – socket object for given client |
| Output | void |
| Description | Constructor for UniqueSocket, sets the attributes UID, r\_UID and socket. |

|  |  |
| --- | --- |
| void setRoomUID(int UID) |  |
| Input | int UID – generated UID for given client |
| Output | void |
| Description | When a player is matched with an opponent a room UID is created and each player’s UniqueSocket is updated to store the room UID. |

To do:

Move

|  |  |
| --- | --- |
| void RoomPool() |  |
| Input | void |
| Output | void |
| Description | Constructor for RoomPool, initializeds room\_pool to empty list. |

|  |  |
| --- | --- |
| void add(Room room) |  |
| Input | Room room – room of 2 users |
| Output | void |
| Description | Adds room to room\_pool list. |

|  |  |
| --- | --- |
| void UserPool(int size) |  |
| Input | int size = size of the pool of users |
| Output | void |
| Description | Constructor for UserPool, creates a list that users are added to as they connect to the server. |