Introduction

All functionality specified in the tasksheet was successfully implemented. The server uses multiple threads to sucessfully manage clients and host a game. This report details each thread and how it contribuites to the overall functionality.

Client Connecting

This thread provides an assurance that,

- A new client is assigned a uniqe ID number
- A new client knows the other clients
- The other clients know the new client
- A new client knows the current game state

Client Disconnecting

This thread provides an assurance that,

- The global list of known clients contains only those that are not disconnected
- When a client disconnects, all other clients know of that disconnection
- A disconnected client that is in-game is eliminated
- The messages received from each client is remembered

Game Hosting

Lobby Creation

This is a function that seleccts random players from the queue and moves them to a sub-array **(lobby)** which contains the players in the game.

After this thread is complete, the program will have a lobby array that contains a list with at least 2 and at most 4 players in some random order. The acutual number of players matched into a lobby will depend on the number avaliable.

ecause the main program for the game uses a circular buffer to find the player whos turn it is, a copy of the lobby is taken to store the original order that the lobby was in (explained in the Client Connecting section)

Logging

This is just a debugging thread that prints the current players who are waiting to play a game and the players that are currently playing.