Document For Java Classes and their Responsibilities

1. ***Player.java***
    a) This class is responsible for sending and receiving messages while ensuring synchronized communication using a shared lock to avoid race conditions in a multithreaded environment.
    b) The player sends a message with a unique counter value and receives messages from another player.

2. ***PlayerThread.java***
    a) This class implements a runnable interface to handle thread execution and is responsible for starting the communication by invoking the **sendMessage** method.

3. ***MultiThreadedApp.java***
    a) This class is the entry point for the single-process application.
    b) It initializes two Player objects and associates them with eachother and the creation of an ExecutorService to handle the PlayerThread instances and runs the application in separate threads.

4. ***SocketPlayer.java***
    a) This class represents a player that communicates with another player over a socket connection.
    b) It handles the socket input/output streams for message exchange between two processes and manages the transmission of messages using a TCP connection.

5. ***SocketServer.java***
    a) It is the entry point for the server-side of the multi-process application.
    b) This class sets up a ServerSocket to listen for connections from the client and creates an instance of SocketPlayer to handle communication over the accepted socket connection.
    c) Manages sending and receiving messages from the client.

6. ***SocketClient.java***
    a) It is the entry point for the client-side of the multi-process application.
    b) In this class a socket connection to the server is established and an instance of SocketPlayer to handle communication with the server is Created.
    c) Manages receiving and sending responses to messages from the server.

7. ***Constants.java***
    a) This java class contains some common variables that are used in the other classes.