Week 12

Assignment 1: Calculator

This assignment asked us to modify the Calculator code from Week 10. The calculator previously implemented using lambdas, this time on we had to make the calculator communicate over a network using UDP. The previous code came as an added advantage, as the main processing of the equations was done before hand.

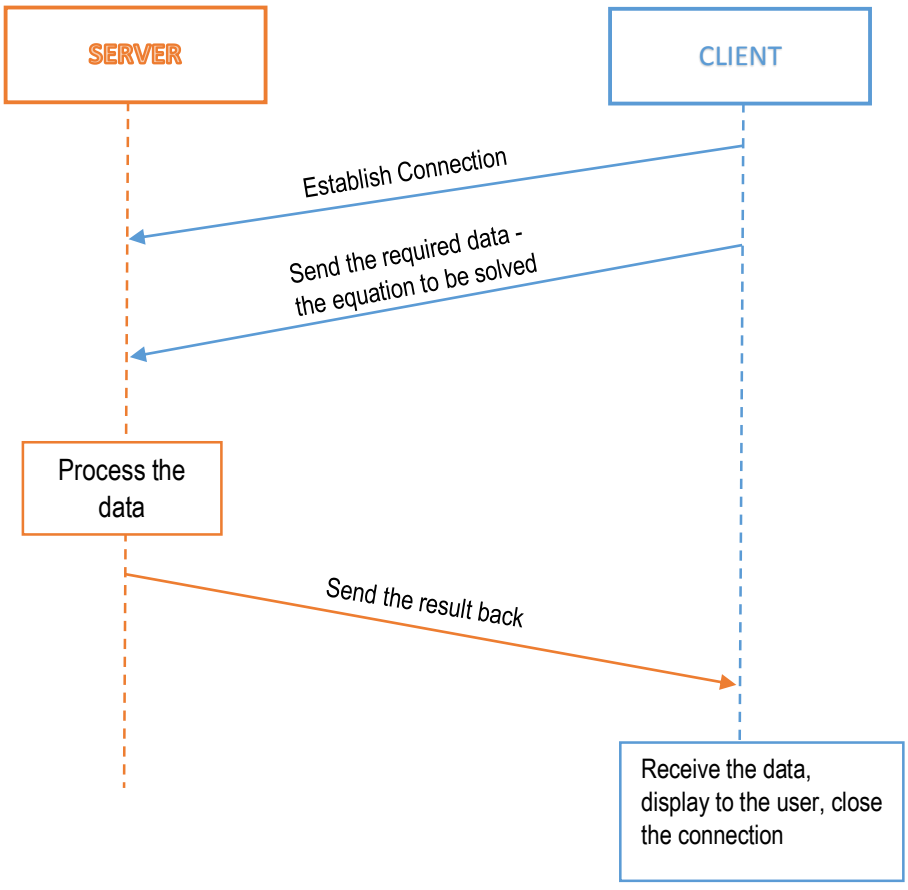
For conversion of this program we created two separate files one acting as Server and the other Client. The Client is the program which would be interacting with the user, whilst taking the inputs like the equation which need to be solved, the port number & the address on which it has to communicate. The major idea of communicating over a UDP network is that it doesn't require any acknowledgment form the server form which it communicating to inform it about any data which was received or not for that matter, due to which implementing the program became a tad bit easier. There was not of a problem that we ran into while implementing this code.

For this code we have asked the user to provide the client with the required command line arguments, which should be in the format:

<Port Number> <address> <num> <operation> <num>

Steps:

1. The Server is started, and listens on a pre-set port of 7171.
2. The client is started and the user provides it with the necessary inputs
3. The client creates a Datagram Packet, packs all the required data and send it to the server.
4. The server after receiving the data processes over it, sends the results back to the client.
5. The client then displays the result back to the user. All the necessary checks are performed by both the client and server side.



Assignment 2:Battleship game

This assignment asked us to create a gaming interface for a game called Battleship. The client and server side play against each other. The client side connects with the server which is listening on a pre-set port, the client sends the name which it will use while it will be a player in the game. It detects the connections and sends the name it will be using while playing the game. The client player starts the game and specifics the coordinates on which it wants to attack. After the input a grid is displayed on showing where the attack was done and whether the target was hit or not. The gird with ships placed is selected at random. The server takes the next chance, and the game continues until all the ships re not destroyed. Furthermore, after the game is played the winner is displayed and the game is reinitialized.