**Programming Assignment**

**Due Date – February 17th, 2022**

**Objectives**

1. Learn to create a network client.
2. Learn how packets can be sent over the network.
3. Familiarize you with the concept of sockets.
4. Use packet capture to visually inspect protocols.

# Client Specifications

$ client -s <SERVER-IP> -p <PORT> -l LOGFILE

The client takes three arguments:

1.Server IP - The IP address of the server.

2.PORT - The port the server listens on.

2.Log file location - Where you will keep a record of packets you received.

For example:

$ client -s 192.168.2.1 -p 6543 -l LOGFILE

1. The client must parse three command line arguments, server, port, and logfile.
2. The client should connect to the server on the specified port.
3. Send a string to the server.
4. Server is currently hosted on IP “**34.125.69.89**”, Port: “**8001**”. ***The IP may change. If you get a connection refused, notify the instructor.***
5. Receive the server’s reply, log the reply, and gracefully shutdown the socket.

**8. Turn in the following as a ZIP file:**

1. **The client code (60 points)**
2. **The client’s log (20 points)**
3. **Use TCPDUMP or Wireshark to capture the interactions, turn in the .pcap file (20 points)**

# Pseudo code

main client class():

##you may create separate modules for each of these

Step 1: #read command line arguments, IP and port

##sanity check inputs

Step 2: #Create a socket object, use TCP socket(SOCK\_STREAM) for this assignment

##Check for errors

Step 3: #Connect to the IP and port read from command line

##handle connection failure

Step 4: #read a message from user

Step 5: #Send message to the server

Step 6:#receive message from the server

#Easter egg: You need to send a specific word “Network” to receive a

Message.

#print message