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Assignment 1

CMSC 414

Task 1: Client/Server program  
First the socket is created. The socket is created with the server port and server address.

The server address is localhost and server port are the same between server and client. The server requests until a client connection is setup. Once it’s set the server will wait till the client is run. Once client is run, server accepts the connection and waits for the sentence and options chosen. The sentence then first waits for the sentence, then it asks for the options. Stores the sentence and options in two different variables. The message is taken in first and what to do with the message is taken second. After this information is taken in then and only then will the results be processed and sent back to the client to be displayed. The client will display the results. TCP packets were exchanged with the user-input payload.

Task 2: Analysis of the packets captured by Wireshark

1. There 38 packets captured. There were 22 TCP packets captured. Average packet size is between 60-70 in length. 5-10 packets per second.
2. There were no html or hypertext transfer protocol capturered.
3. The only IP Address communicated was 127.0.0.1
4. a) Source Port: 59119

Destination Port: 12002

b) Source IP: 127.0.0.1

Destination IP: 127.0.0.1

c) IP header length: 44 bytes

d) Mac address was not found but because we are using localhost it would be right to assume the IP address is the same 127.0.0.1.

e) total length is consistently 52 but it changes between 52-122 throughout the packets

f) A screenshot of a cell phone

Description automatically generated

5)  This is the tcp stream that was given.

A screenshot of a cell phone

Description automatically generated