Homework 6 (UDP and TCP)

Please complete following questions in the space provided. Submit a modified version to Connex in the submission box. Consult the files **Wireshark_UDP_v7.0.pdf** if needed.

Concepts

- Connectionless vs Connection-oriented communication
- What is inside a UDP datagram?
- What is TCP?
- How TCP connection is set up and taken down?

UDP

- Make a copy of your solution to the online solutions of UDP Socket Programming in Python (HTML) the two files, `udpclient.py` and `udpserver.py`, here in this folder.
- If you are running the Python code on your laptop using `localhost`, then start Wireshark with a capture filter `host 127.0.0.1`. Just capture the packets going between the `udpclient.py` and `udpserver.py`.
- Stop Wireshark when the Python scripts terminated.

Answer the following questions in the space provided:

Q1. Examine the first UDP packet, how many fields in the UDP

datagram?

> *5 fields*

Q2. How many bytes are in the UDP **payload**? Check it against your `udpclient.py` code.

> *9 bytes*

Q3. What is the **protocol number** of UDP?

> *UDP 17*

Q4. Examine two UDP packets, one from the client and one from the server. What are the port numbers used in the client and in the server packets?

> *client 57010*
> *server ddi-udp-1 8888*

TCP

- Make a copy of your solution to TCP Socket Programming in Python (HTML) the two files, `tcpclient.py` and `tcpserver.py`, here in this folder.
- If you are running the Python code on your laptop using `localhost`, then start Wireshark with a capture filter `host`

`127.0.0.1`. Just capture the packets going between the `tcpclient.py` and `tcpserver.py`.

Answer the following questions in the space provided:

Q5. What are the packet numbers correspond to `connect` request?

> *19*

Q6. What are being exchanged between the client and server after a TCP connection is established?

> *An Okay hello messege*

Q7. What is the **source** port number of the client when the **client** is sending?

> *Source port 37235*

Q8. What is the **source** port number of the server when the **server** is responding?

> *ddi-tcp2- 8889*

Q9. What is the total number of bytes are received by the server when the connection is closed?

> *66bytes*

Q10. What is the total number of bytes are received by the client when the connection is closed?

> *66 bytes*

Q11. How many packets are exchanged when the connection is closed? What are being exchanged?

> *none*