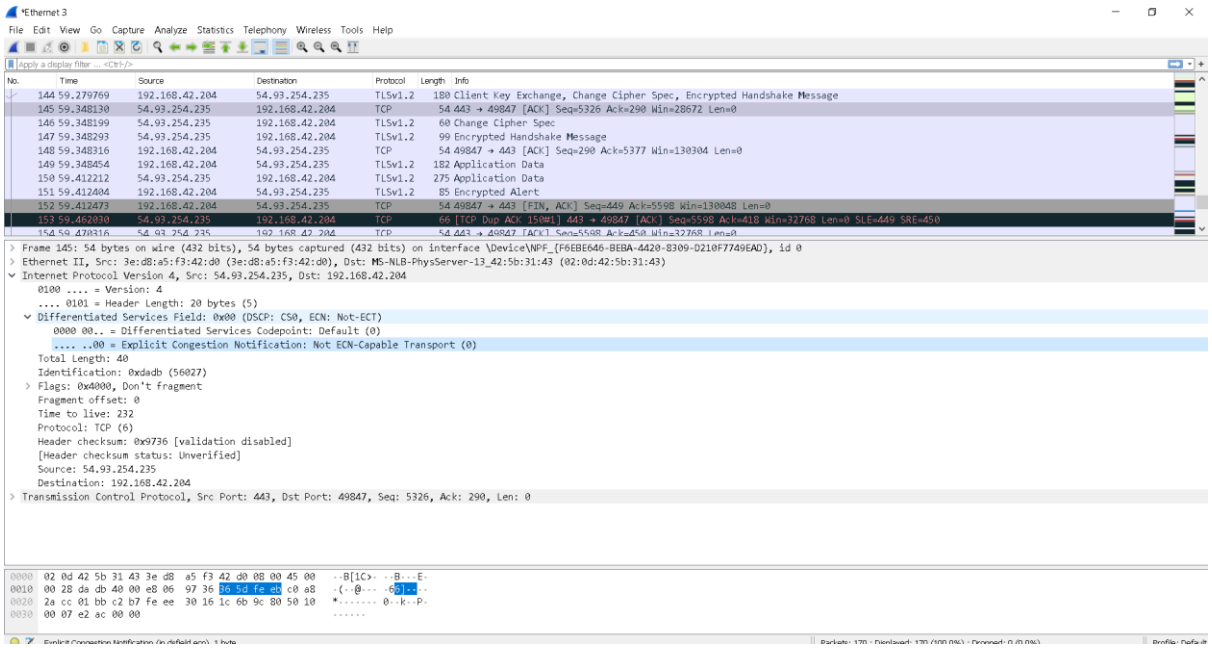
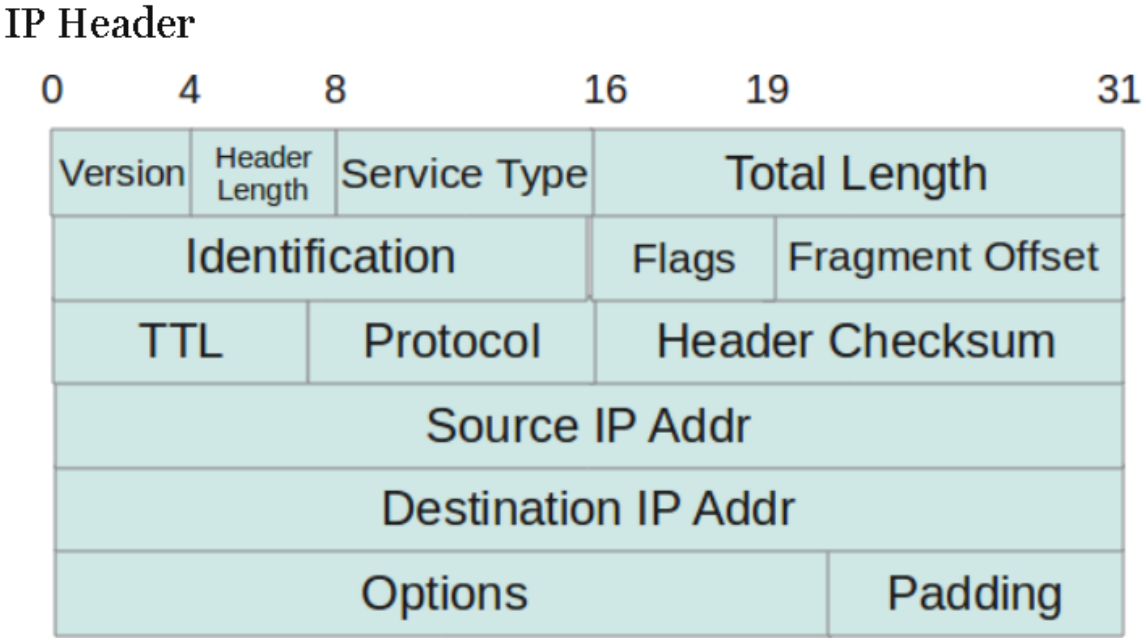
Lab 2

2.



3. Draw an IP header.



4. Explain the fields for a particular IP packet captured. Try to explain the purpose of each field.

Version is the version of the IP protocol.

Header length is the length of the header in 32-bit words. The minumum value is 20 bytes with a maximum value of 60 bytes.

Priority and Type of Service – specifies how the datagram should be handled. The first 3 bits are the priority bits.

Total Length is the length of the header and data (Packet). The minimum length is 20 bytes, and the maximum is 65,535 bytes.

Identification is used to differentiate fragmented packets from different datagrams.

Flags are used to control and identify fragments.

Fragmented Offset is used for rebuilding a packet is it is too large to be sent as one piece.

TTL is the limits of a datagram's lifetime (**T**ime **t**o **l**ive).

Protocol defines the protocol used in the data portion of the IP datagram.

Header Checksum is used for checking errors in the header.

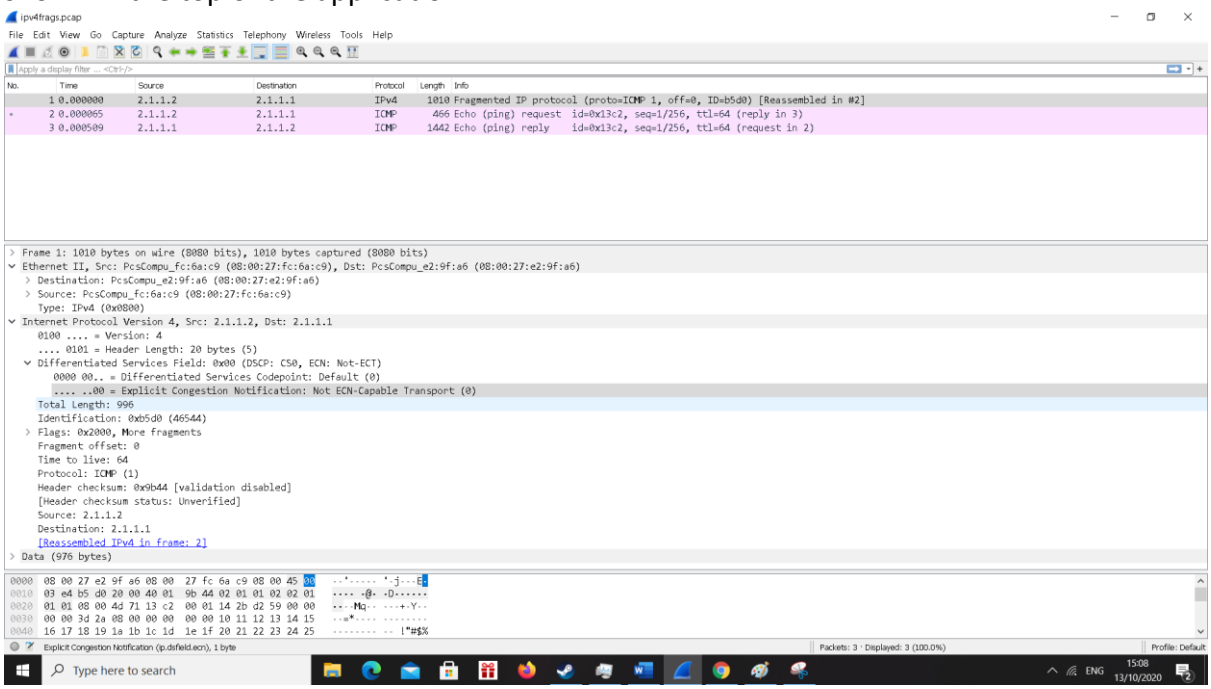
Source IP Addr is the IP address of the sender.

Destination IP Addr is the IP address of the receiver.

Options is used for network testing, debugging etc.

5.

Less packets, IP Address is different receiver address is different. There's no live feed as it's sending and receiving. There doesn't appear to be any encryption information message shown in the top of the application.



https://wiki.wireshark.org/SampleCaptures?action=AttachFile&do=get&target=ipv4frags.pcap

6. List three games you like and list their technical/design highlights.

Super Mario Bros. It has an excellent control scheme, intuitive level design easy to learn and hard to master with tonnes of secrets. Perfected the jump arc for platforming or set the standard at least for modern games.

Final Fantasy 7, first game to use 3D cinematography for its CGI scenes that blend into the background of a game to give a seamless transition. In depth story that did not last for 3 – 4 hours but more of a 40+ hour adventure where a memory card would be required to save your data and continue the story another day. Its focus was on story and not action based.

Tales of Eternia another story based game like final fantasy 7 but this went a anime and cartoon graphics route, while the story elements are cliché to todays standards the battle system set it apart making it feel more like a fighting game with micromanagement of party members with everything happening in real time instead of a turn based tactical game. The game spawned over 2 worlds and had voice acting, cheesy by todays standards but still has a certain charm to it.