Lab 2

2. Capture Packets

After capturing packets I see the following headings:
Frame 1: no. of bytes on wire, no of bytes captures on interface, id
Ethernet II, Src (source), Dst (destination)
Internet Protocol Version 4, Src (source), Dst (destination)
User Datagram Protocol, Src Port: num, DstL (num)
Data (no. of bytes)

3. Draw IP Header

Version (4 bits)	**IHL (4 bits)**	**Type of Service (8 bits)**	**Total Length (16 bits)**

Identification (16 bits)	**Flags (3 bits)**	**Fragment Offset (13 bits)**

Time to Live (8 bits)	**Protocol**	**Header checksum (16 bits)**

Source IP Address (32 bits)
Destination IP Address (32 bits)
Options
Data

4. Explain the Fields for an IP Captured

Version: This is the IP being used
Length: This is the length of the IP header in 32 bits
Type of Service: This is how the data should be handled
Total Length: This is the length of the whole packet (header and data)
Identification: This shows the difference between fragmented packets and datagrams (datagrams are transfer units)
Flags: Flags control and identify the fragments
Fragment Offset: This is used for fragmentation. It is sometimes used for reassembly as well, which may be used when a packet is too large for a frame.
Time to Live: This is how long a datagram can take before reaching its destination.
Protocol: This is the internet protocol

Header checksum: This is like an error checker. The header and the router both calculate a checksum for a packet. If it is not the same, the packet is discarded.
Source IP Address: This is the address of whoever sends the packet. So in this case, when I send a packet in Wireshark, the source IP address is mine.
Destination IP Address: This is the address of whoever is receiving the packet, the host.
Options: This was empty for me but can be used for security and debugging.

Difference Between My Packet and the Example One
Fragmented IP Protocol

List Three Games You Like and Their Technical/Design Highlights

1. **The Last of Us**
    a. Art
    b. Character design
    c. Story
    d. Stealth aspect: certain enemies can only hear you and so you need to creep up slowly to avoid getting killed

2. Formula 1
    a. Game mechanics
    b. Extremely sensitive controls which make the game challenging

3. Crash Bandicoot
    Level design
    Tempo
    Precision needed for many actions makes it difficult but in an addictive way