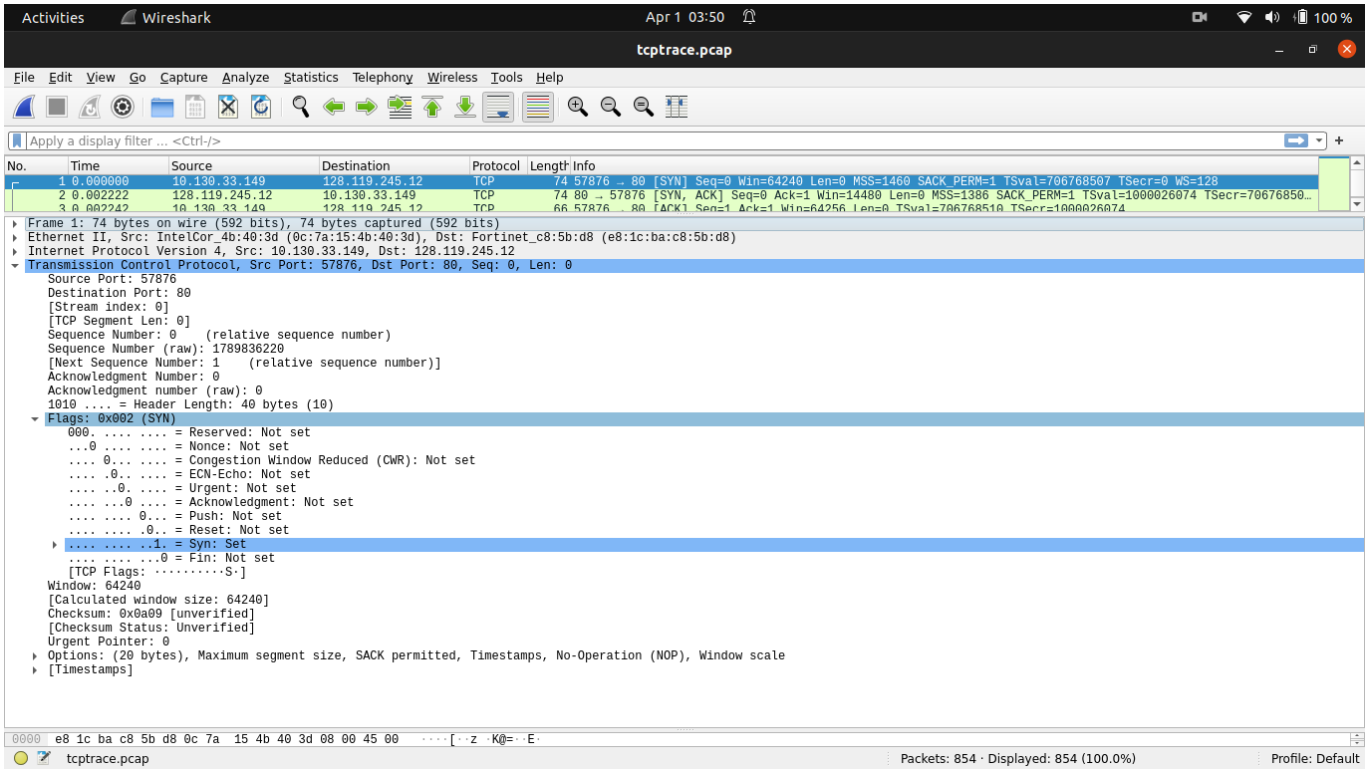
STUDENT NO.: SKSVPX001

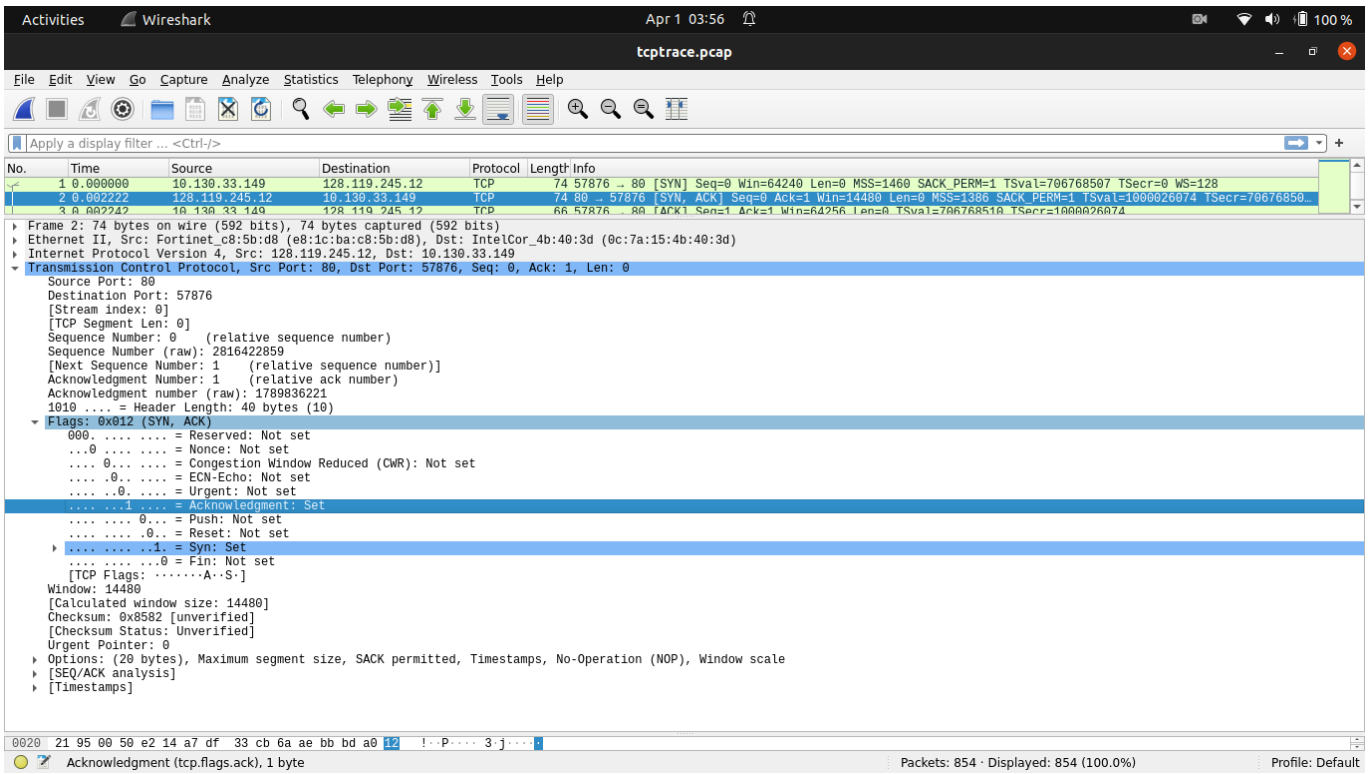
3b)

The SYN flag is set to 1, indicating that it is a SYN segment.



4b)

The SYN flag is set to 1 and Acknowledgment flag is set to 1, indicating that this segment is a SYNACK segment.

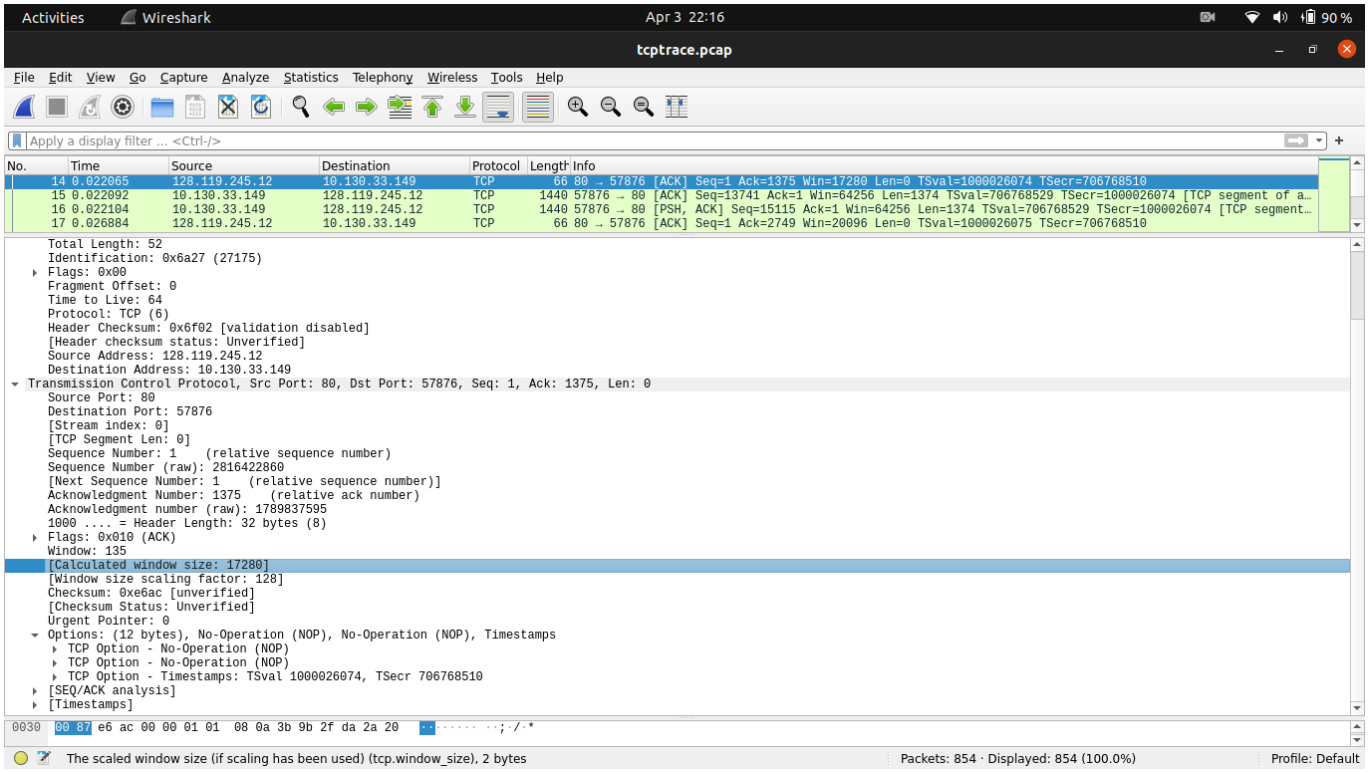


4d)
By adding 1 to the initial sequence number of SYN segment from the client computer (the sequence number of the SYN segment initiated by the client computer is 1789836220)

1789836220 + 1 = 1789836221

8b)
No, the receiver window increases in size from 14480 to 17280 in the next TCP segment sent from gaia.cs.umass.edu to client after the first four data carrying TCP segments advertising amount buffer space, in frame 14.

The sender not is throttled.

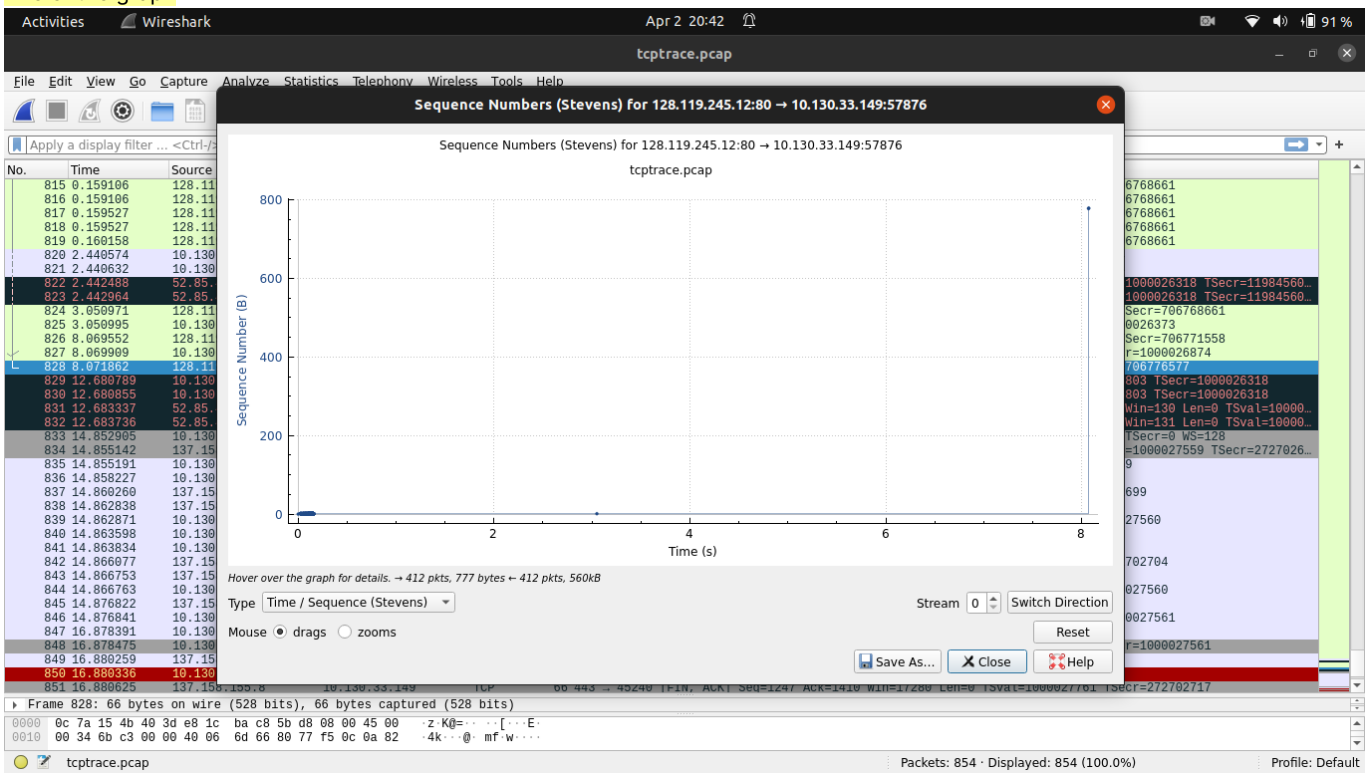


9)
No, there is no retransmitted segments.
All sequence numbers are increasing in the time sequence graph (Stevens).

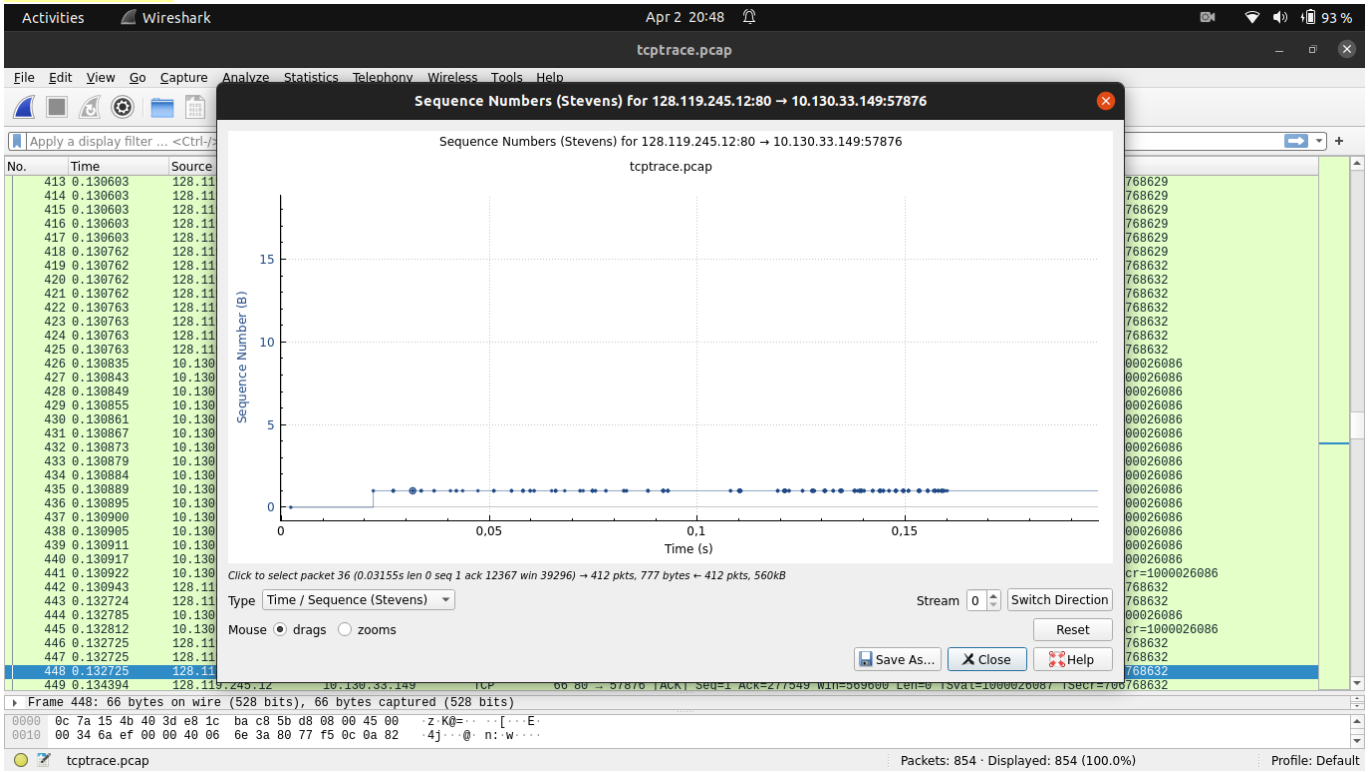
Each dot represents a TCP segment sent, plotting the sequence number of the segment versus the time at which it was sent. A set of dots stacked above each other represents a series of packets that were sent back-to-back by the sender.

As time progresses sequence numbers increase, being larger than those of its previous segments.

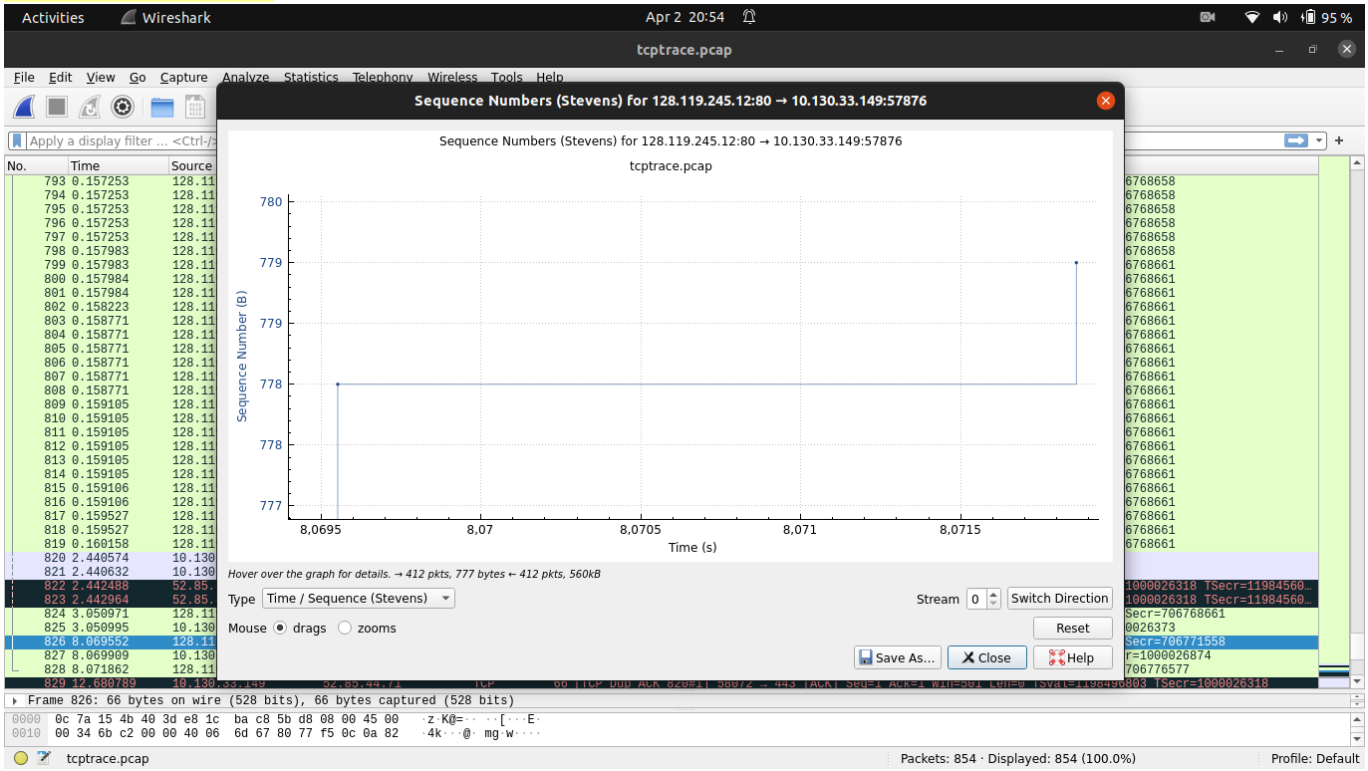
The entire graph



From 0s to 0.16s *(ZOOMED IN)*



From 8.0695s to 8.07185s *(ZOOMED IN)*



15

The more fragments bit flag is set to zero, meaning the IP datagram is not fragmented.

16

- Identification
- Header checksum
- Time to live

17

- Version, because we are using IPv4 for all packets
- Source IP, because all UDP segments are sent from the same client.
- Header length, because they are UDP segments.
- Destination IP, because all UDP segments are sent to the same destination.
- Differentiated Services, because all segments are of UDP protocol, they use the same Type of Service class.
- Protocol, because all segments are of UDP.

18

The IP header Identification field increments with each UDP segment.

19

Internet Control Message Protocol (ICMP), with value 1.

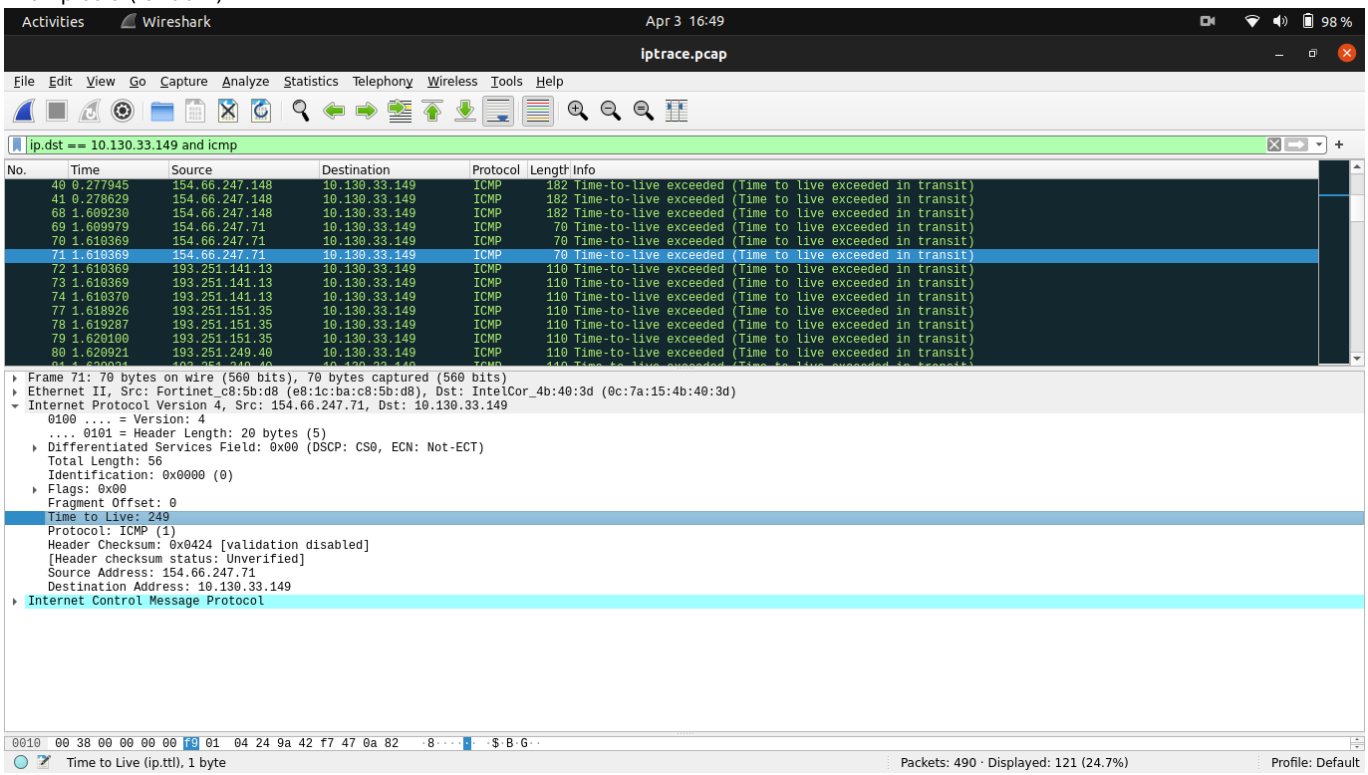
20

No,

21

No, they are different.

Examples a (*random*)



Example b (*random*)