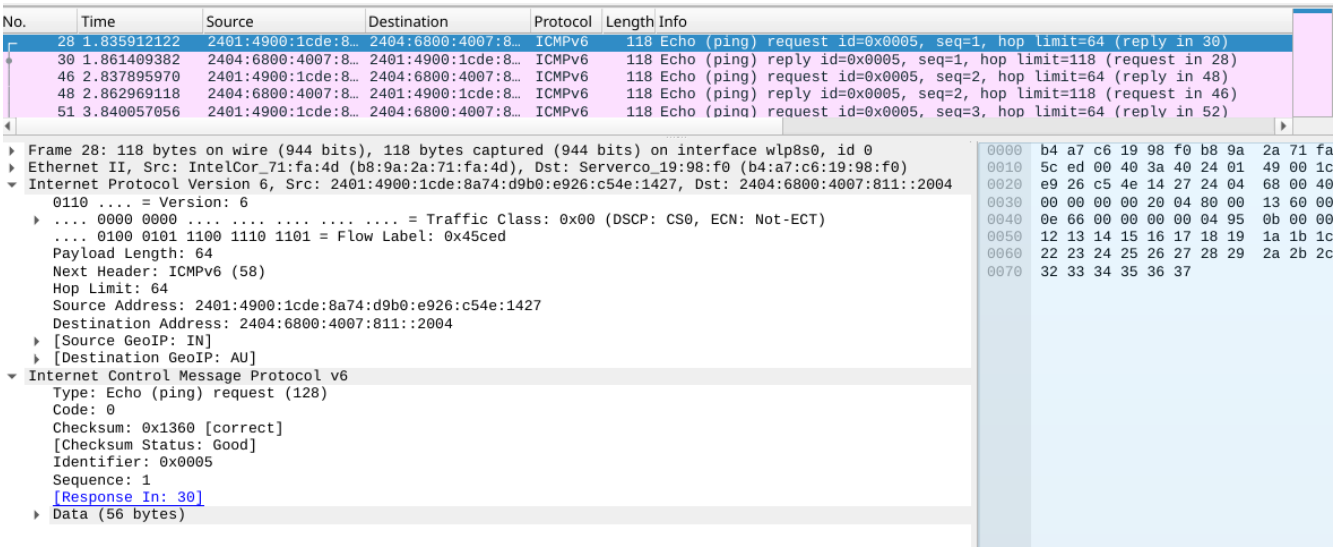
Assignment – 2 (ICMP)

PART – 1

1. What is the IP address of your host? What is the IP address of the destination host?

A. IP address of my host is 2401:4900:1cde:8a74:d9b0:e926:c54e:1427

IP address of the destination host is 2404:6800:4007:811::2004



2. Why is it that an ICMP packet does not have source and destination port numbers?

A. ICMP packet is a network layer protocol.

3. Examine one of the ping request packets sent by your host. What are the ICMP type and code numbers? What other fields does this ICMP packet have? How many bytes are the checksum, sequence number and identifier fields?

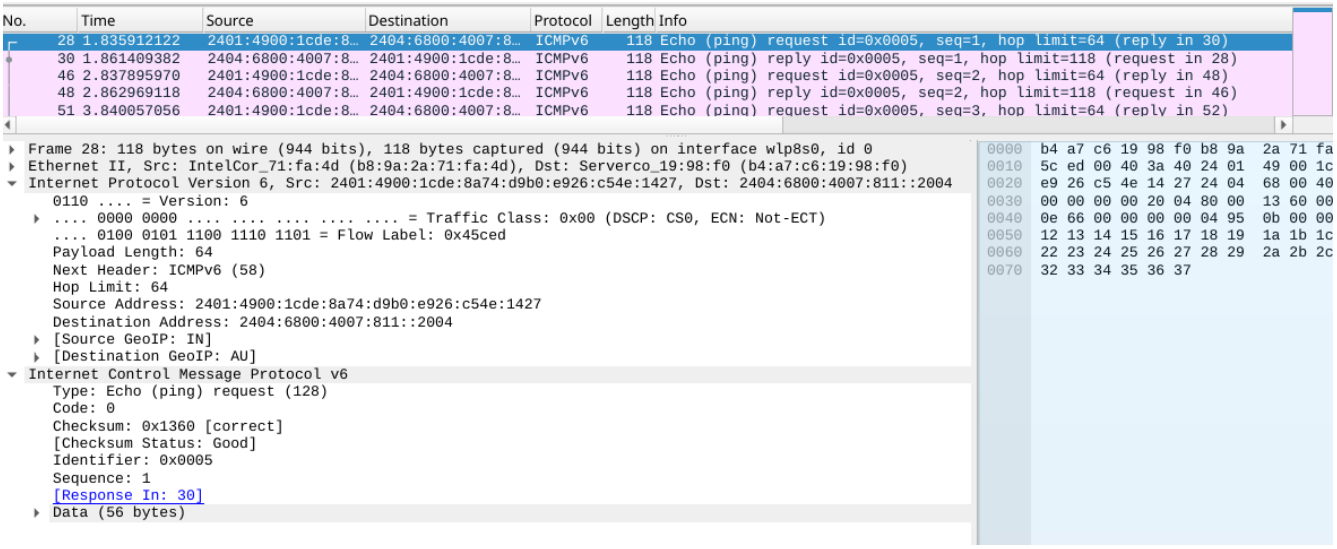
A. ICMP Type is 128 and Code number is 0

Other fields are checksum,sequence number, identifier and data field

Checksum is 2 bytes

Identifier is 2 bytes

Sequence number is 2 bytes



4. Examine the corresponding ping reply packet. What are the ICMP type and code numbers? What other fields does this ICMP packet have? How many bytes are the checksum, sequence number and identifier fields?

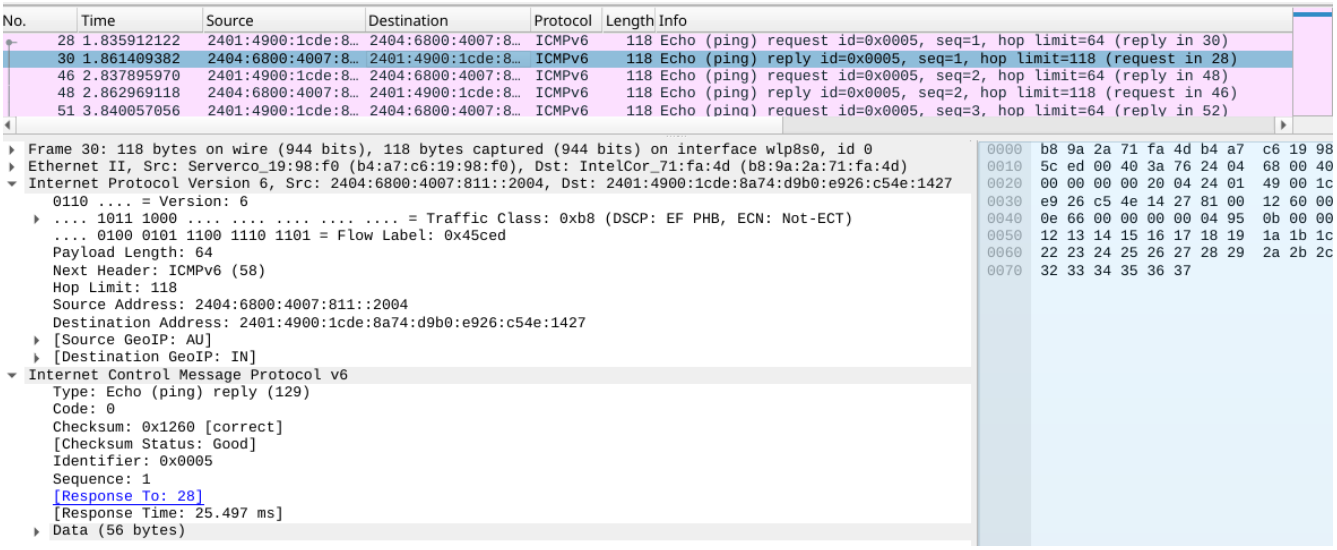
A. ICMP Type is 129 and Code number is 0

Other fields are checksum,sequence number, identifier and data field

Checksum is 2 bytes

Identifier is 2 bytes

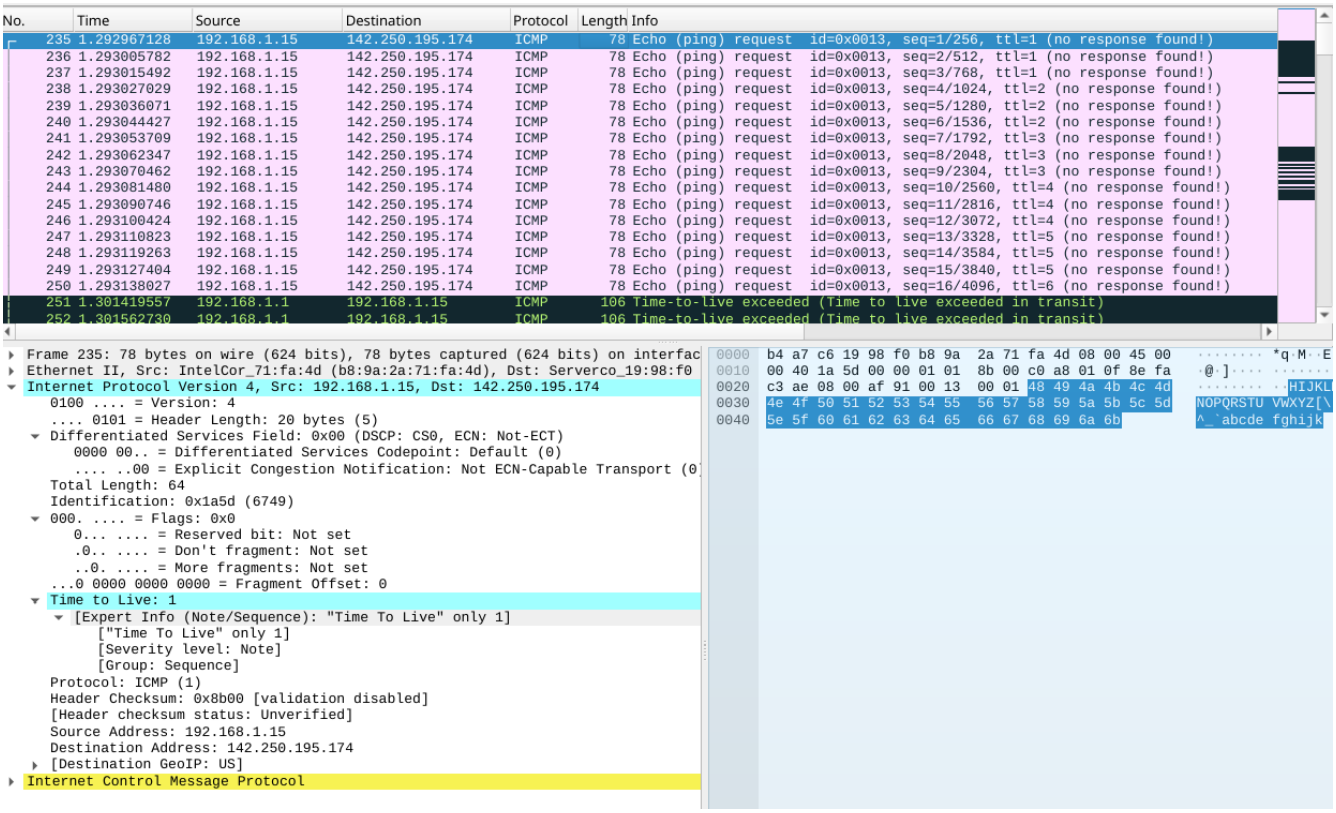
Sequence number is 2 bytes



PART – II

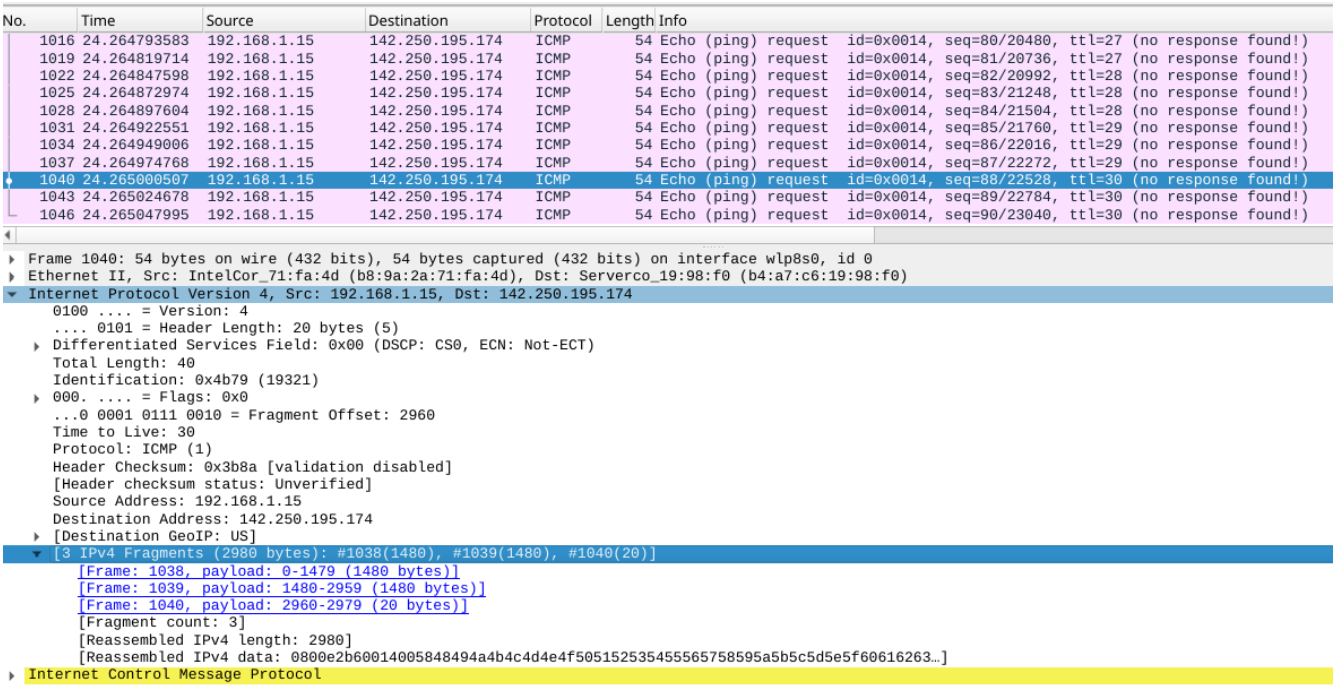
1. Select the first ICMP Echo Request message sent by your computer, and expand the Internet Protocol part of the packet in the packet details window.

A.



2. Which of the IP datagrams are fragmented?

A. Whenever data exceeds 1500 bytes, IP datagrams are fragmented.



3. Which fields in the IP datagram always change from one datagram to the next within this series of ICMP messages sent by your computer?

A. Identification, Time to live and Header checksum fields always change.

4. Which fields stay constant? Why?

A. The fields that stay constant across the IP datagrams are:

- Version (since we are using IPv4 for all packets)
- Header length (since these are ICMP packets)
- Source IP (since we are sending from the same source)
- Destination IP (since we are sending to the same dest)
- Differentiated Services (since all packets are ICMP they use the same Type of Service class)
- Upper Layer Protocol (since these are ICMP packets)

These fields are essential for routing and processing the IP datagram across the network and remain constant to ensure proper delivery and handling of the packet by intermediate routers and the final destination.