Computer Networks

Homework-3

Due date: Friday 05/04/2024
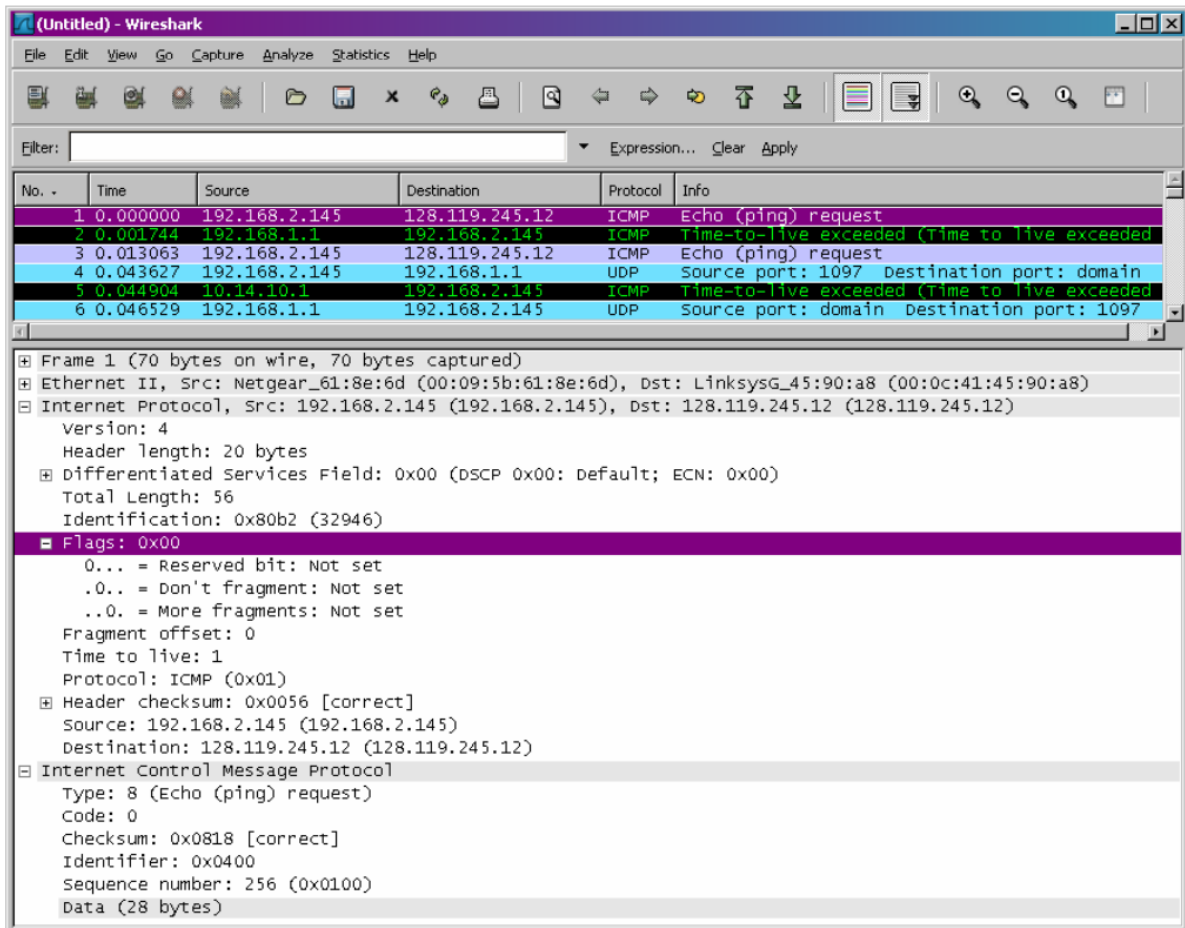
Total marks: 20

Fig. 1

Let's consider the above IPv4 packet (in Fig. 1) and its various fields. Please answer the following questions.

1. Within the IP packet header, what is the value in the upper layer protocol field?
2. How many bytes are in the IP header? How many bytes are in the payload of the IP datagram? Explain how you determined the number of payload bytes.
3. Has this IP datagram been fragmented? Explain how you determined whether or not the datagram has been fragmented.
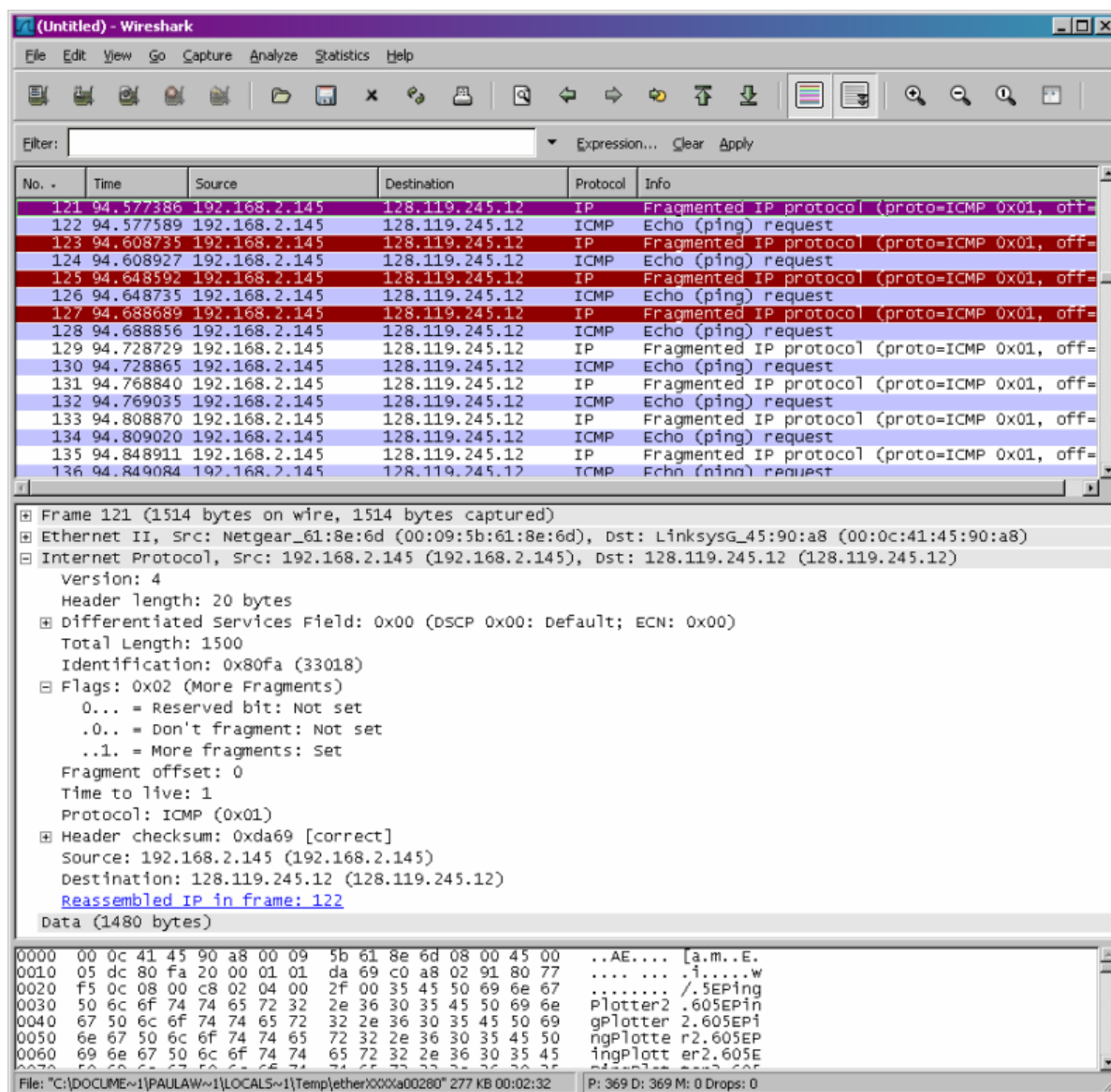4. What is the value in the Identification field and the TTL field?

Fig. 2

Let's concentrate on the above packet fields (in Fig. 2).

5. Can you say whether the message corresponding to the above packet has been fragmented?
6. What information in the IP header indicates that the datagram been fragmented?
7. What information in the IP header indicates whether this is the first fragment versus a latter fragment?
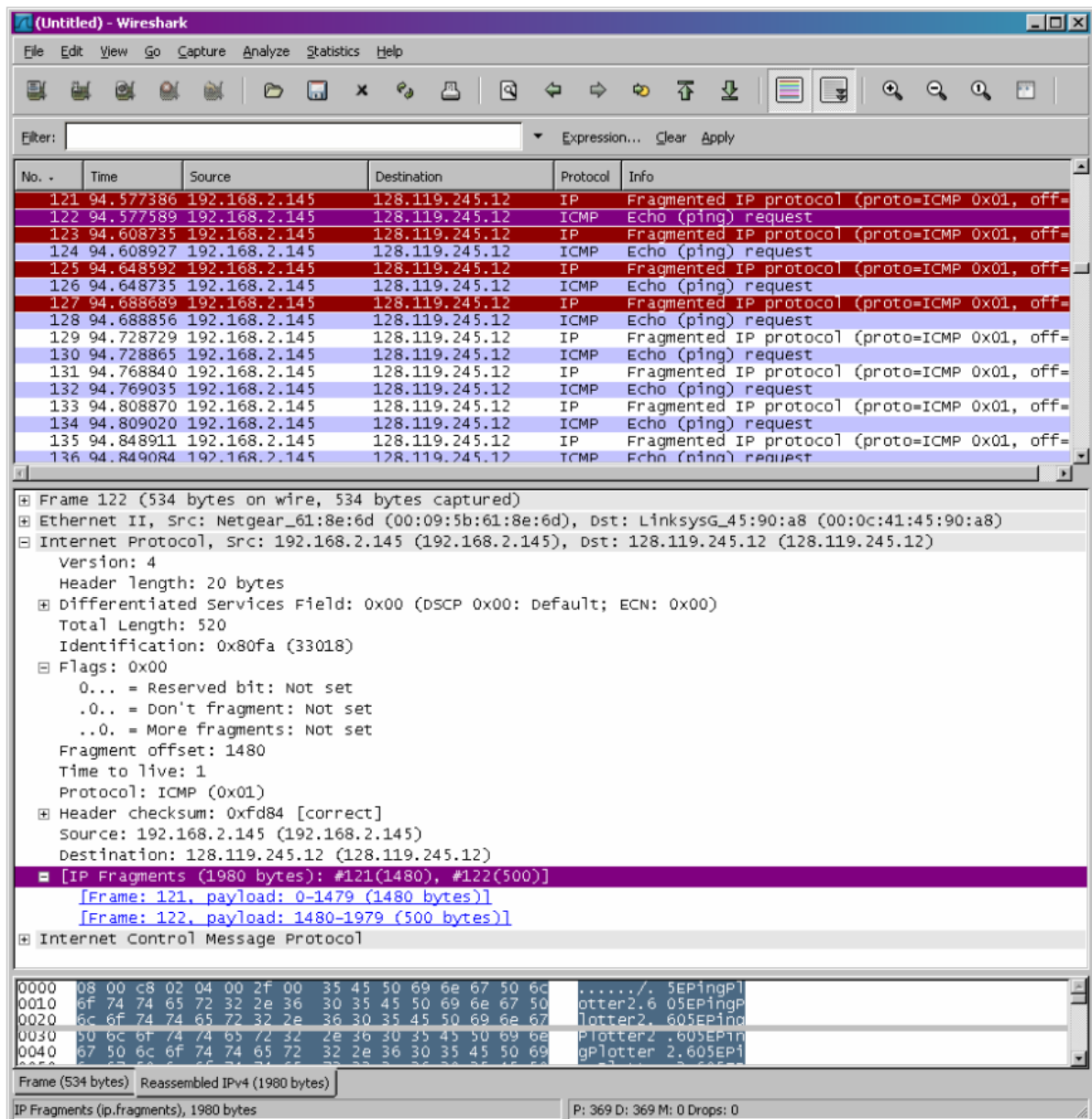
Fig. 3

Let's concentrate on the above packet fields (in Fig. 3).

8. What information in the IP header indicates that this is not the first datagram fragment?
9. Are the more fragments? How can you tell?
10. If Fig. 2 and Fig. 3 are the 1st and 2nd fragments of a message, then what fields change in the IP header between the first and second fragment?