A screenshot of a computer

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1. What is the 48-bit Ethernet address of your computer?

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5. What is the value of the Ethernet source address? Is this the address of your computer, or of gaia.cs.umass.edu (Hint: the answer is no). What device has this as its Ethernet address?

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Description automatically generated 6. What is the destination address in the Ethernet frame? Is this the Ethernet address of your computer?

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Description automatically generated7. Give the hexadecimal value for the two-byte Frame type field. What upper layer protocol does this correspond to?

A screenshot of a computer code

Description automatically generated8. How many bytes from the very start of the Ethernet frame does the ASCII “O” in “OK” (i.e., the HTTP response code) appear in the Ethernet frame?A screenshot of a computer screen

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10. What are the hexadecimal values for the source and destination addresses in the Ethernet frame containing the ARP request message?

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Description automatically generated11. Give the hexadecimal value for the two-byte Ethernet Frame type field. What upper layer protocol does this correspond to?

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Description automatically generated12. a) How many bytes from the very beginning of the Ethernet frame does the ARP opcode field begin?

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Description automatically generatedb) What is the value of the opcode field within the ARP-payload part of the Ethernet frame in which an ARP request is made?

Ans. 00 01

c) Does the ARP message contain the IP address of the sender?

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d) Where in the ARP request does the “question” appear – the Ethernet address of the machine whose corresponding IP address is being queried?A screenshot of a computer

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13. Now find the ARP reply that was sent in response to the ARP request. a) How many bytes from the very beginning of the Ethernet frame does the ARP opcode field begin?

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Description automatically generated b) What is the value of the opcode field within the ARP-payload part of the Ethernet frame in which an ARP response is made?

Ans. 00 02

c) Where in the ARP message does the “answer” to the earlier ARP request appear – the IP address of the machine having the Ethernet address whose corresponding IP address is being queried?

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Description automatically generated 14. What are the hexadecimal values for the source and destination addresses in the Ethernet frame containing the ARP reply message?

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Description automatically generated15. Open the ethernet-ethereal-trace-1 trace file in http://gaia.cs.umass.edu/wireshark-labs/wireshark-traces.zip. The first and second ARP packets in this trace correspond to an ARP request sent by the computer running Wireshark, and the ARP reply sent to the computer running Wireshark by the computer with the ARP-requested Ethernet address. But there is yet another computer on this network, as indicated by packet 6 – another ARP request. Why is there no ARP reply (sent in response to the ARP request in packet 6) in the packet trace?A screenshot of a computer screen

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