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

f4:b5:20:38:bf:06

2. What is the 48-bit destination address in the Ethernet frame? Is this the Ethernet address of gaia.cs.umass.edu? (Hint: the answer is no). What device has this as its Ethernet address? [Note: this is an important question, and one that students sometimes get wrong. (Re-)read Section 6.4 in the text and make sure you understand the answer here.]

d4:c1:9e:31:b5:a8

It is the address of my router

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

0x0800

corresponds to the IP protocol

4. How many bytes from the very start of the Ethernet frame does the ASCII “G” in “GET” appear in the Ethernet frame?

14 ethernet header + 20 IP header + 20 TCP header = 54 bytes

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?

d4:c1:9e:31:b5:a8

my router

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

f4:b5:20:38:bf:06

Yes

7. Give the hexadecimal value for the two-byte Frame type field. What upper layer protocol does this correspond to? (Ethernet II-> Type)

0x0800

IP protocol

8. 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?

14 ethernet header + 20 IP header + 20 TCP header = 54 bytes

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

Source: d4:c1:9e:31:b5:a8

Destination: ff:ff:ff:ff:ff:ff

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

0x0806

ARP

11. Where in the ARP request does the “question” appear – the Ethernet address of the machine whose corresponding IP address is being queried?

12.Now find the ARP reply that was sent in response to the ARP request. 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?

Target MAC address: 00:00:00\_00:00:00 (00:00:00:00:00:00)

Target IP address: 172.16.48.38

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

Source: f2:fb:10:49:85:85

Destination: d4:c1:9e:31:b5:a8