- 1. What is the 48-bit Ethernet address of your computer?
  - Source: BelkinIn 75:b1:52 (c4:41:1e:75:b1:52)
- 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 pages 483-484 in the text and make sure you understand the answer here.]
  - Destination: 3ComEuro 7e:d9:01 (00:1e:c1:7e:d9:01)
- 3. What is the hexadecimal value for the two-byte Frame type field in the Ethernet frame carrying the HTTP GET request? What upper layer protocol does this correspond to?
  - Type: IPv4 (0x0800)
- 4. How many bytes from the very start of the Ethernet frame does the ASCII "G" in "GET" appear in the Ethernet frame? Do not count any preamble bits in your count, i.e., assume that the Ethernet frame begins with the Ethernet frame's destination address.
  - 47 for G

Next, answer the following questions, based on the contents of the Ethernet frame containing the first byte of the HTTP response message.

- 5. What is the value of the Ethernet source address? Is this the address of your computer, or of <u>gaia.cs.umass.edu</u> (Hint: the answer is *no*). What device has this as its Ethernet address?
  - Source: 3ComEuro 7e:d9:01 (00:1e:c1:7e:d9:01)
- 6. What is the destination address in the Ethernet frame? Is this the Ethernet address of your computer?
  - Destination: BelkinIn\_75:b1:52 (c4:41:1e:75:b1:52)
- 7. Give the hexadecimal value for the two-byte Frame type field. What upper layer protocol does this correspond to?
  - Type: IPv4 (0x0800)
- 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? Do not count any preamble bits in your count, i.e., assume that the Ethernet frame begins with the Ethernet frame's destination address.
  - 54 bytes appear in O for OK
- 9. How many Ethernet frames (each containing an IP datagram, each containing a TCP segment) carry data that is part of the complete HTTP "OK 200 ..." reply message?
- 134 and 131