

# HOME WORK ASSIGNMENT#3

## CS 4/55231 ST: INTERNET ENGINEERING

Fall 2012, Department of Computer Science, Kent State University

Due Date: \_\_\_\_\_ APRIL 4 \_\_\_\_\_ (4x200=800 points)

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4. (HTTP:) Explain the Age computation mechanism in HTTP/1.1. A response chain has 2 caches in its path from user agent to the origin server. A page has date value 12:01:10 pm, and initial age value 10 sec at the origin server. (a) The first cache placed a request for it at 12:02:10 pm, and received it at 12:02:50 pm. The second cache placed the request for it at 12:05:10pm and received it at 12:05:60pm. What was the new age value the first cache passed to the second cache? (b) at 12:10:50pm a request arrives at the second cache for the page. What will be the CURRENT\_AGE? What MAX\_AGE\_VALUE will force the second cache to initiate revalidation?
5. (HTTP:) The clocks at two different cache may not be synchronized. Explain if the age value based age computation will be effected by this? How about the date value based age computation?
6. (IP SECURITY: Comers 17.5-6) Suppose a computer receives two ARP replies for a single request. The first reply claims that the hardware address is H1 and the second reply claims that the hardware address is H2. How does ARP software handle the replies? How can a computer use ARP to break security?
7. (HTTP:) HTTP/1.1 is stateless. That is, in general a server does not remember anything about any earlier connection to any client. However, by using HIDDEN parameters it is possible to indirectly keep track of states. Explain a communication sequence between a CGI program, and HTTP Server and an HTTP client, by which it is possible to show that how many times a particular client has contacted a CGI program.