

Quiz 11

Course: cs241 - System Programming, CS Department

Date: April 28, 2006

Netid:

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Note: Completion of quiz is an individual effort. The quiz takes 10 minutes. The student gets additional 5 points for taking the quiz. *Each question has ONLY ONE ANSWER!!!*

1. (1 Point) The key element of the client-server model is
 - a. server initiates a connection setup with a client
 - b. server is passively waiting for a request from a client
 - c. server specifies the hostname of a client to get connected

2. (1 Point) Asymmetric communication channel means
 - a. one-way channel
 - b. two-way channel letting the same number of bits through in each direction
 - c. two-way channel letting different number of bits through in each direction
 - d. one-way shared channel

3. (1 Point) The Transmission Control Protocol (TCP) is a connection-oriented protocol that provides
 - a. a real-time channel for a client-server communication due to absent congestion control
 - b. a flow control for client-server communication
 - c. out-of-order delivery of datagrams

4. (1 Point) TCP achieves reliability of its data stream using
 - a. checksums
 - b. receiver acknowledgements
 - c. retransmission
 - d. all of the above

5. (1 Point) The socket function`int socket(int domain, int type, int protocol)` needs to be invoked in
 - a. client code
 - b. server code
 - c. both client and server code

6. (1 Point) The Unreliable Datagram Protocol (UDP) communication point is identified by
 - a. process ID only
 - b. host name only
 - c. host IP address and port number

7. (1 Point) Messages (Datagrams) under UDP are received atomically. What does it mean?
 - a. A connection must be setup between the client and the server to send UDP messages
 - b. A message must be transmitted entirely or not at all
 - c. Client process must block until the entire UDP message is received at the server.

8. (1 Point) What happens if a UDP message is lost due to network error on the way from client host to server host?
 - a. UDP client does not do anything
 - b. UDP client retransmits the message
 - c. UDP client adjusts its flow control mechanism

9. (1 Point) The difference between simple-request protocol and request-reply protocol is in
 - a. creating the UDP end-point at the client side
 - b. exchanging messages between the client and server sides
 - c. creating the UDP end-point at the server side
 - d. accepting connection at the server side

10. (1 Point) Consider the 'at-most-once-semantics' property in client-server connectionless communication protocols. How would you implement this property on the server?
 - a. Nothing special has to be done on the server when using UDP protocol
 - b. Server needs to keep copies of previous requests, check for duplicate requests and retransmit reply to the client without re-executing the request
 - c. Server needs to keep copies of the previous request, execute each request and send reply to the client