

Midterm Key

1. A circuit-switched network can guarantee a certain amount of end-to-end bandwidth for the duration of a call. Most packet-switched networks today (including the Internet) cannot make any end-to-end guarantees for bandwidth.
2. processing, queueing, transmission, propagation delays. Propagation is variable.
3. a) Yerel (local) DNS sunucusu, (b) kök (root) DNS sunucusu, (c) yetkili (authoritative) DNS
4. Message is sent from Alice's host to her mail server over HTTP. Alice's mail server then sends the message to Bob's mail server over SMTP. Bob then transfers the message from his mail server to his host over POP3.
- 5.a. Hız için. B) Uygulama katmanında gerekli mekanizmaları kullanarak.
6. a) 20 bytes b) ack number = 90
7. Checksum, timer (retransmission), sequence number, acknowledgement,
- 8.

$$\begin{array}{r} 0 \ 1 \ 0 \ 1 \ 0 \ 1 \ 0 \ 1 \\ + \ 0 \ 1 \ 1 \ 1 \ 0 \ 0 \ 0 \ 0 \\ \hline 1 \ 1 \ 0 \ 0 \ 0 \ 1 \ 0 \ 1 \end{array}$$

$$\begin{array}{r} 11000101 \\ + 01001100 \\ \hline 00010001 \end{array}$$

One's complement = 1 1 1 0 1 1 1 0.

To detect errors, the receiver adds the four words (the three original words and the checksum). If the sum contains a zero, the receiver knows there has been an error. All one-bit errors will be detected, but two-bit errors can be undetected (e.g., if the last digit of the first word is converted to a 0 and the last digit of the second word is converted to a 1).