* CH 1
  + Guided (coax)
  + Unguided radio
  + packet switching allows more users to use network!
  + Circuit switching has dedicated switches
  + Packet switching is like regular mail.
  + 5 practical layers
* CH 2
  + Benefit of non-persistent http: you can use multiple tcp fetch connections at a time.

REVIEW:

* Steps for laptop to turn on wifi
  + - Turn on network card
    - 802.11 a. ac. b. g. n. 2.4Ghz - 5Ghz.
    - CSMA/CD(collision detection[not possible in wireless])-CA(collision Avoidance)

1. Laptop reserves the channel, sends an RTS (request to send) to the AP
   1. It’ll resend after a timeout
   2. AP responds with a CTS (Clear to send)
   3. WEP accepts 40 bits of user password + 24 bit of security (IV will be repeated because it’s not long enough)
   4. WPA
2. Laptop broadcasts that it’s looking for a DHCP server. (slide 4-25)
   1. Broadcast address = all 1s = 255.255.255.255 (DHCP request will be sent to that address)
   2. Laptop then receives an IP from DHCP server, it also knows where DNS server and the router is.
3. To go to a website, type in the address and using ARP it will broadcast to find the IP and MAC (*slide 6-45)*
   1. The local DNS looks it up, but I can’t find it
   2. So it looks it up and asks the next DNS, say it doesn’t know, so then it asks (*got distracted and didn’t pay much attention here…*)Amazon.com’s DNS and that will respond with it’s IP to our DNS
   3. And then our DNS will respond to what the IP is.
4. Laptop now sends a request to the webserver…
   1. Establish a TCP connection (TCP syn, response from server is a syn-ack, response back, is ACK)
   2. Make HTTP GET Request
      1. Transport: src port= math.rand, dst:80
      2. Network: src ip: \_\_\_ dst. IP: \_\_\_\_\_
      3. Link: (2 options)
         1. Wireless: src mac: \_\_\_\_ ap MAC: \_\_\_ router mac: \_\_\_
         2. Wired: SRC mac: \_\_\_\_\_\_, DST MAC: \_\_\_\_\_\_(router’s mac)
      4. Transform all info into binary and send it to the webserver.
   3. Web server replies to the html file according to the url
      1. RDT if a packet was lost (with GBN) it’ll ack the last correct packet
      2. UDP, no handshake.

* Inside the AS (*slide 5-35)*
  + Forwarding Table (using routing algorithms)
  + Routing algorithm: OSPF (open shortest paths first)
* *got distracted didn’t pay attention, we’re on slide 6-89*

final is the same format

6 short answer question