What happens next?

What does A do next?
What does A do next, and when does it do it?
Discussion Questions

1) Suppose Host A sends two TCP segments back to back to Host B over a TCP connection.
   a) What might be the first sequence number?
   b) If 20 bytes are sent, what is the second sequence number?
   c) Suppose that the first segment is lost but the second segment arrives at B. In the acknowledgment that Host B sends to Host A, what will be the acknowledgment number?

2) Consider a reliable protocol that uses only NAKs (no unnecessary ACKs, since most often, things work well!) Suppose the sender sends data infrequently. Would a NAK-only protocol be preferable to a protocol that uses ACKs? Why?
3) Now suppose the sender has a lot of data to send and the end-to-end connection experiences few losses. In this second case, would a NAK-only protocol be preferable to a protocol that uses ACKs? Why?

4) Why did the TCP designers chose to have TCP wait until it has received three duplicate ACKs before performing a fast retransmit, rather than performing a fast retransmit after the first duplicate ACK for a segment is received?