1. 电脑屏幕截图

   描述已自动生成What is the IP address and TCP port number used by the client computer (source) that is transferring the ﬁle to gaia.cs.umass.edu? To answer this question, it’s probably easiest to select an HTTP message and explore the details of the TCP packet used to carry this HTTP message, using the “details of the selected packet header window” (refer to Figure 2 in the “Getting Started with Wireshark” Lab if you’re uncertain about the Wireshark windows.
2. What is the IP address of gaia.cs.umass.edu? On what port number is it sending and receiving TCP segments for this connection?
3. What is the sequence number of the TCP SYN segment that is used to initiate the TCP connection between the client computer and gaia.cs.umass.edu? What is it in the segment that identiﬁes the segment as a SYN segment?
4. What is the sequence number of the SYNACK segment sent by gaia.cs.umass.edu to the client computer in reply to the SYN? What is the value of the Acknowledgement ﬁeld in the SYNACK segment? How did gaia.cs.umass.edu determine that value? What is it in the segment that identiﬁes the segment as a SYNACK segment?
5. What is the sequence number of the TCP segment containing the HTTP POST command? Note that in order to ﬁnd the POST command, you’ll need to dig into the packet content ﬁeld at the bottom of the Wireshark window, looking for a segment with a “POST” within its DATA ﬁeld.
6. Consider the TCP segment containing the HTTP POST as the ﬁrst segment in the TCP connection. What are the sequence numbers of the ﬁrst six segments in the TCP connection (including the segment containing the HTTP POST)? At what time was each segment sent? When was the ACK for each segment received? Given the difference between when each TCP segment was sent, and when its acknowledgement was received, what is the RTT value for each of the six segments? What is the EstimatedRTT value (see Section 3.5.3, page 239 in text) after the receipt of each ACK? Assume that the value of the EstimatedRTT is equal to the measured RTT for the ﬁrst segment, and then is computed using the EstimatedRTT equation on page 239 for all subsequent segments.
7. What is the length of each of the ﬁrst six TCP segments?
8. What is the minimum amount of available buffer space advertised at the received for the entire trace? Does the lack of receiver buffer space ever throttle the sender?
9. Are there any retransmitted segments in the trace ﬁle? What did you check for (in the trace) in order to answer this question?
10. How much data does the receiver typically acknowledge in an ACK? Can you identify cases where the receiver is ACKing every other received segment (see Table 3.2 on page 247 in the text).
11. What is the throughput (bytes transferred per unit time) for the TCP connection?

Explain how you calculated this value.