CSE 473 – Introduction to Computer Networks

Review Questions 5 - Solution

Your Name:

Please print out this form (two-sided, if you can) and write your answers *legibly* in the spaces provided. If you can't write legibly, type.

1. Consider an FTP session in which the user three separate *get* commands. How many TCP connections are created during this session? Explain.

   A first (control) connection is created by the client when it connects to the server, and separate connections are then created by the server in response to each one of the GET requests from the client (those GET requests are received over the control TCP connection). Each one of these TCP connections is closed when the server completes the file transmission associated with the GET request.

2. Explain how an SMTP server recognizes the end of an email message. Suggest an alternate way the protocol could have been defined and give a reason that this might have been a better approach.

   SMTP uses CRLF (new line) followed by "." (a period) followed by CRLF. Note that such a combination can arise in user data, and such cases need to be dealt with (see Sec. 4.5.2 of the RFC for how this is done).

   A better option would have been to use a length field in the header, which would also have made it easier to handle non ASCII characters.

3. Explain how an SMTP server finds out how to reach the SMTP server associated with the email address of the recipient of one of the emails one of its users is trying to send?

   It uses DNS to get the IP address of the MX server for the domain name specified in the email address of the recipient for whom the email is intended.