Chapter 7 Assignments

1. File Transfer Protocol (FTP) uses _____ for control connection and _____ for data connection.
    A. Stateless connection. Non persistent TCP connection
    B. Persistent TCP connection, non-persistent TCP connection
    C. Non-persistent TCP connection, persistent TCP connection
    D. FTP is a connection less protocol

2. Consider different activities related to email.
    s1: Send an email from a mail client to a mail server
    s2: Download an email from mailbox server to a mail client
    s3: Checking email in a web browser
    _____ is the application level protocol used in each activity.
    A. s1 : HTTP , s2 : SMTP , s3 : POP
    B. s1 : SMTP , s2 : FTP , s3 : HTTP
    C. s1 : SMTP , s2 : POP , s3 : HTTP
    D. s1 : POP , s2 : SMTP , s3 : IMAP

3. Suppose within your Web browser you click on a link to obtain a Web page. The IP address for the associated URL is not cached in your local host, so a DNS lookup is necessary to obtain the IP address. Suppose that *n* DNS servers are visited before your host receives the IP address from DNS; the successive visits incur an RTT of RTT1, …, RTTn. Further suppose that the Web page associated with the link contains exactly one object, consisting of a small amount of HTML text. Let RTT denote the RTT between the local host and the server containing the object. Assuming zero transmission time of the object, how much time elapses from when the client clicks on the link until the client receives the object?

4. Referring to Problem 3, suppose the HTML file references eight very small objects on the same server. Neglecting transmission times, how much time elapses with
(a) Non-persistent HTTP with no parallel TCP connections?
(b) Non-persistent HTTP with the browser configured for 5 parallel connections?
(c) Persistent HTTP?