P12:

A picture containing graphical user interface

Description automatically generated

P20:

We can periodically take a snapshot of the DNS caches in the local DNS servers. The Web server that appears most frequently in the DNS caches is the most popular server. This is because if more users are interested in a Web server, then DNS requests for that server are more frequently sent by users. Thus, that Web server will appear in the DNS caches more frequently.

P25:

If the network has N nodes, then  edges are required to connect these nodes.

Therefore, the number of edges in an overlay network of N nodes is .

P29:

Graphical user interface, text, application, email

Description automatically generated

After modifications then the Port numbers of client and server:

DP Client port number         - 5432

UDP Server port number        - 12000

Before modifications the Port numbers of client and server :

UDP Client port number         - xxxx (number assigned by OS)

UDP Server port number        - 12000

P30:

Contemporary browsers support to open multiple parallel connections to a web site. Most browsers can open 5 to 10 parallel TCP (Transmission Control Protocol) connections simultaneously. Browsers can be configured to open more multiple simultaneous connections by setting Max–connections–per–server field.

Advantages:

• Large number of simultaneous TCP connections helps client to download different data simultaneously form the same server.

• Particularly, for file transfer protocol (FTP) systems, multiple connections improve reliability and speed.

• Parallel connections reduce the response time of an application running at server.

• In peer to peer networks, multiple connections allow peers to process requests from other peers, more effectively.

• While downloading a file with multiple connections, there is a less chance of failure of downloading a whole file.

Disadvantages:

• Large number of multiple connections to a web site, can severely impact the performance of a web server. Thus, the performance of a server will begin to decrease more quickly.

• Large number of multiple connections causes more network traffic, which may leads to congestion.

• When large number of simultaneous connections is opened, each connection shares the available bandwidth.

• Further increase of number of parallel connections leads to the bottleneck problem.

• Each parallel TCP connection requires separate memory space (TCP control block to maintain connection state).

P31:

For an application such as remote login (telnet and ssh), a byte-stream oriented protocol is very natural since there is no notion of message boundaries in the application. When a user types a character, we simply drop the character into the TCP connection.  
In other applications, we may be sending a series of messages that have inherent boundaries between them. For example, when one SMTP mail server sends another SMTP mail server several email messages back to back. Since TCP does not have a mechanism to indicate the boundaries, the application must add the indications itself, so that receiving side of the application can distinguish one message from the next. If each message were instead put into a distinct UDP segment, the receiving end would be able to distinguish the various messages without any indications added by the sending side of the application.