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Lab Assignment 7 (CN)

* Aim: Write a C program for wired network using UDP Socket to perform anyone of following string conversion from uppercase to lowercase.

* Objective: To understand concept of socket programming using UDP.

* Theory • Client/Server communications
Involves two components namely a client and a server. The client sends request to server and server responds.

• UDP:
The user datagram protocol is simplest communication protocol available of TCP/IP protocol. UDP is a unreliable transport protocol but it use IP service which protocol provides best delivery mechanism.

• UDP Socket function:
For UDP sockets it can send or received data from a connected or unconnected socket.

- UDP Socket client
  i) Socket()
  ii) Sendtodata()
  iii) Recvfrom()
  iv) close()

- UDP Socket server
  i) Socket()
  ii) bind()
  iii) recvfrom()
  iv) sendto()

* FAQ

Q1. Draw and Explain UDP header?
Ans UDP header is a 8 byte fixed simple header while for TCP it may vary from 20 byte to 60 byte.

i) Source Port - 16 bit long field used to identify port number of sender.
ii) Destination Port - 16 bit long field used to identify port number of receiver.
iii) Length - 16 bit field sets length of UDP.
iv) Checksum - 16 bit field for checksum.

Source Port	Destination Port
Length	Checksum

Q3 State 5 application of UDP?
Ans

i) Media streaming
ii) Domain Name System
iii) Streaming Media application
iv) Online multiplayer games.
v) Voice over IP.

Q2 Difference b/w TCP and UDP.

TCP	UDP
→ Able to sequence	→ Unable to sequence.
→ Can guarantee delivery of data to destination router.	→ Cannot guarantee delivery of data to destination.
→ Retransmission of lost packet.	→ NO retransmission of lost packets.
→ Data is read as a byte stream.	→ UDP packets with defined boundaries.
→ Slower than UDP	→ Faster than TCP
→ Doesnot support broadcasting	→ Support broadcasting.

Q4 What is Ephemeral Ports?

Ans An ephemeral port is a temporary communication hub for Internet protocol communication. It is created from a set range of port numbers by IP software. And used as an end clients port assignment in direct communication with a well known port used by a server.