CS334- Network Programming Lab- Cycle of Experiments

1. Implement Client-Server communication using Socket Programming and TCP as transport layer protocol.* :

   (Online Discussion: 23-03-2021, Record Submission: 4-4-2021, Evaluation: 5-4-2021)

2. Implement Client-Server communication using Socket Programming and UDP as transport layer protocol.*

   (Online Discussion: 30-03-2021, Record Submission: 11-04-2021, Evaluation: 12-04-2021 & 13-04-2021)

3. Implement a multi user chat server using TCP as transport layer protocol.*
   (Online Discussion: 13-04-2021, Record Submission: 18-04-2021, Evaluation: 19-04-2021 & 20-04-2021)

4. Implement a Concurrent Time Server application using UDP to execute the program at remote server. Client sends a time request to the server, server sends its system time back to the client. Client displays the result.*
   (Online Discussion: 20-04-2021, Record Submission: 25-04-2021, Evaluation: 26-04-2021)

5. Implement Simple Mail Transfer Protocol.*
   (Online Discussion: 27-04-2021, Record Submission: 02-05-2021, Evaluation: 03-05-2021)

6. Develop concurrent file server which will provide the file requested by client if it exists. If not, the server sends an appropriate message to the client. Server should also send its process ID (PID) to clients for display along with file or the message.*
   (Online Discussion: 04-05-2021, Record Submission: 23-05-2021, Evaluation: 31-05-2021)

7. a)Display the header information of UDP and TCP packets during client-server communication using raw sockets.
   b) Develop a packet capturing and filtering application using raw sockets.
   (Online Discussion: 25-05-2021, Record Submission: 30-05-2021, Evaluation: 31-05-2021)

8. Implement the First Readers-Writers Problem (Using Threads and Shared Memory)
   (Online Discussion: 1-06-2021, Record Submission: 6-06-2021, Evaluation: 7-06-2021)

9. Implement the Second Readers-Writers problem (Using Process along with PIPE and Message Queue):
   (Online Discussion: 08-06-2021, Record Submission: 13-06-2021, Evaluation: 14-06-2021)

10. Using Wireshark observe data transferred in client server communication using UDP and identify the UDP datagram. (Record Submission: 27-06-2021, Evaluation: 28-06-2021 & 29-06-2021)

11. Using Wireshark observe Three Way Handshaking Connection Establishment, Data Transfer and Three Way Handshaking Connection Termination in client server communication using TCP. (Record Submission: 04-07-2021, Evaluation: 05-07-2021 & 06-07-2021)

12. a) Design and configure a network with multiple subnets with wired and wireless LANs using required network devices. Configure the following services in the network- TELNET, SSH, DHCP server and DNS server.*
    b) Configure the following services in the network- FTP server, Web server, File server - Implementation and Demonstration.*