

----- (15CS01011_CNLAB4) -----

Question 1: Multi Client chat implementation through server using threads for sending and receiving messages.

Sender side..

```
vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./chat_server
Listening on port number 8000 ...
Waiting for a client to connect...

Client connected from 10.10.10.231:41802
Client 4 is online.
Waiting for a client to connect...

Client connected from 10.10.10.231:41804
Client 5 is online.
Waiting for a client to connect...

Client connected from 10.10.10.231:41806
Client 6 is online.
Waiting for a client to connect...
```

Client 4 side..

```
vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./chat_client
Usage: ./chat_client <IP address>
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./chat_client 10.10.10.231
connected to ..8000 Port
Received message from server::Hello Client 4
5 Hii
5 Hello. How are u???
6 Hello u.
6 Hii u
5 I'm gud
```

Client 5 side..

```
vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./chat_client 10.10.10.231
connected to ..8000 Port
Received message from server::Hello Client 5
4 Hii
5 Hello. How are u?
5 Hello. How are u?
4 Hello. How are u???
6 How are u?
6 I'm gud.
4 I'm gud
█
```

Client 6 side..

```
vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./chat_client 10.10.10.231
connected to ..8000 Port
Received message from server::Hello Client 6
4 Hello u.
4 Hii u
5 How are u?
5 I'm gud.
█
```

Question 2: Implementation of stop and wait ARQ protocol.

Server side..

```

vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./stopwait_sender

Connected to client : 10.10.10.231

The requested data from client : client.c

Frame sent: 0

Acknowledgement received: 1    Frame sent: 1
Acknowledgement received: 0    Frame sent: 0
Acknowledgement received: 1    Frame sent: 1
Acknowledgement received: 0    Frame sent: 0
Acknowledgement received: 1    Frame sent: 1
Acknowledgement received: 0

Total no. of frames sent: 6

The data was sent successfully

-----Client disconnected-----
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ █

```

Client side..

```

vaishnavi@vaishnavi-Inspiron-7548:~$ cd Desktop/CNLAB/assign_4
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ gcc stopwait_receiver.c -o stopwait_receiver
vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ ./stopwait_receiver

Enter the file name : client.c

Request sent to server

Frame received: 0  Ack sent: 1
Frame received: 1  Ack sent: 0
Frame received: 0  Ack sent: 1
Frame received: 1  Ack sent: 0
Frame received: 0  Ack sent: 1
Frame received: 1  Ack sent: 0

Data was received sucessfully

Data is copied in the file received_file.txt

vaishnavi@vaishnavi-Inspiron-7548:~/Desktop/CNLAB/assign_4$ █

```