

# Assignment 2

## Multi User Chat System

### → Client:

- void sigintHandler(int sig\_num)
  - This function is for handling the SIGINT error caused during the execution of client program, it basically clears and detaches the shared memory and exits safely.
- void \* receive()
  - This function is for receiving incoming messages from the server. It runs parallelly with the main thread.
- The program contains 3 shared memories, one for only sending user details, another for sending the message from the user to server, and the last one for receiving message from the server.

### → Server:

- void sigintHandler(int sig\_num)
  - This function is for handling the SIGINT error caused during the execution of client program, it basically clears and detaches the shared memory and exits safely.
- char \*\*parse(char \*input)
  - This function is for breaking the incoming message into pieces separated with space
- void send\_to\_client(int index, char\* msg)
  - This function is for sending a message to a particular client specified with index.
- void \*networking(void \*clientDetail)
  - This function is for managing and sending the message received from one client to another client
- This program contains one global and two local shared memories, the global one is for getting data from various clients and two local ones are for sending and receiving messages. It creates different threads for handling every client.

### → For compiling the program:

- ◆ Write **make** in one terminal for creating the server and **make client** in other terminals for creating the clients. There can't be more than 1 server in the same computer.

- For sending and receiving the message it uses the program's PID as the key of shared memory.
- For sending the message the user needs to first write "SEND" then client id and then finally the message.
  - For eg:- SEND 1 hi
- The receiving client will automatically print the received message