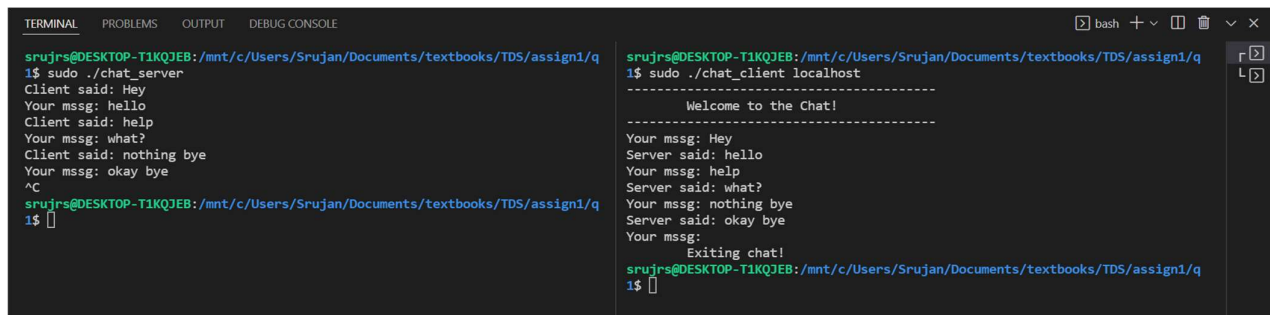


TDS ASSIGNMENT 1 – REPORT

Srujan R, BT18CSE041

A remote procedure call (RPC) is when a computer program causes a procedure (subroutine) to execute in a different address space (commonly on another computer on a shared network), which is coded as if it were a normal (local) procedure call, without the programmer explicitly coding the details for the remote interaction.

Q1: Client – Server Chat



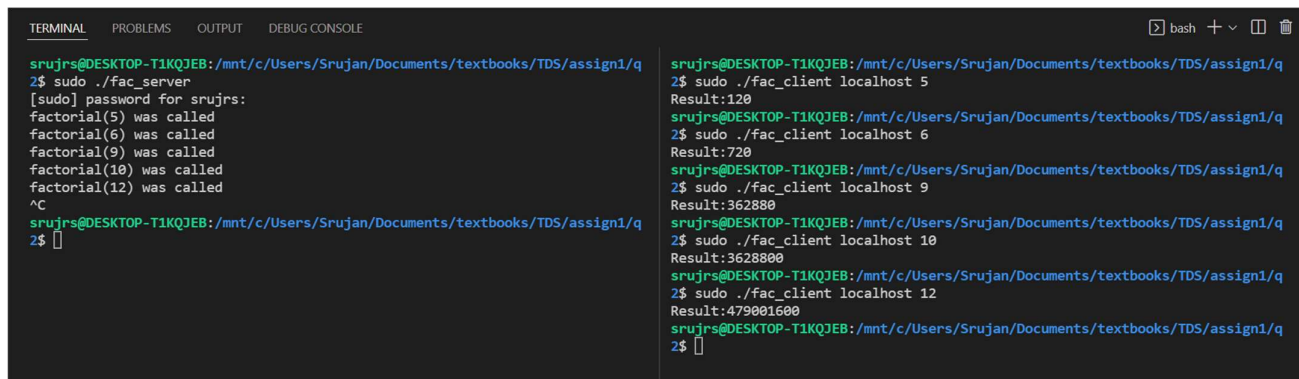
```
TERMINAL  PROBLEMS  OUTPUT  DEBUG CONSOLE

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
1$ sudo ./chat_server
Client said: Hey
Your mssg: hello
Client said: help
Your mssg: what?
Client said: nothing bye
Your mssg: okay bye
^C
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
1$

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
1$ sudo ./chat_client localhost
-----
Welcome to the Chat!
-----
Your mssg: Hey
Server said: hello
Your mssg: help
Server said: what?
Your mssg: nothing bye
Server said: okay bye
Your mssg:
Exiting chat!
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
1$
```

Here I have inserted an infinite loop so that the client keeps sending messages to server till the client enters an empty string.

Q2: Factorial



```
TERMINAL  PROBLEMS  OUTPUT  DEBUG CONSOLE

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_server
[sudo] password for srujrs:
factorial(5) was called
factorial(6) was called
factorial(9) was called
factorial(10) was called
factorial(12) was called
^C
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_client localhost 5
Result:120
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_client localhost 6
Result:720
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_client localhost 9
Result:362880
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_client localhost 10
Result:3628800
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$ sudo ./fac_client localhost 12
Result:479001600
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
2$
```

Here the client is providing the server with a number whose factorial is calculated at the server and sent as an integer back to the client.

Q3: Date-time from server

```
TERMINAL  PROBLEMS  OUTPUT  DEBUG CONSOLE  bash + - [ ] [x]

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ sudo ./givetime_server
Client asked for date and time!
Client asked for date and time!
Client asked for date and time!
Client asked for date and time!
[]

srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ sudo ./givetime_client localhost
The time is Thu Feb 17 22:23:30 2022
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ sudo ./givetime_client localhost
The time is Thu Feb 17 22:23:33 2022
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ sudo ./givetime_client localhost
The time is Thu Feb 17 22:23:36 2022
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ sudo ./givetime_client localhost
The time is Thu Feb 17 22:23:37 2022
srujrs@DESKTOP-T1KQJEB:/mnt/c/Users/Srujan/Documents/textbooks/TDS/assign1/q
3$ []
```

Here the server loads the time and date from the time.h C library and then it sends the date-time details as a string back to client.