

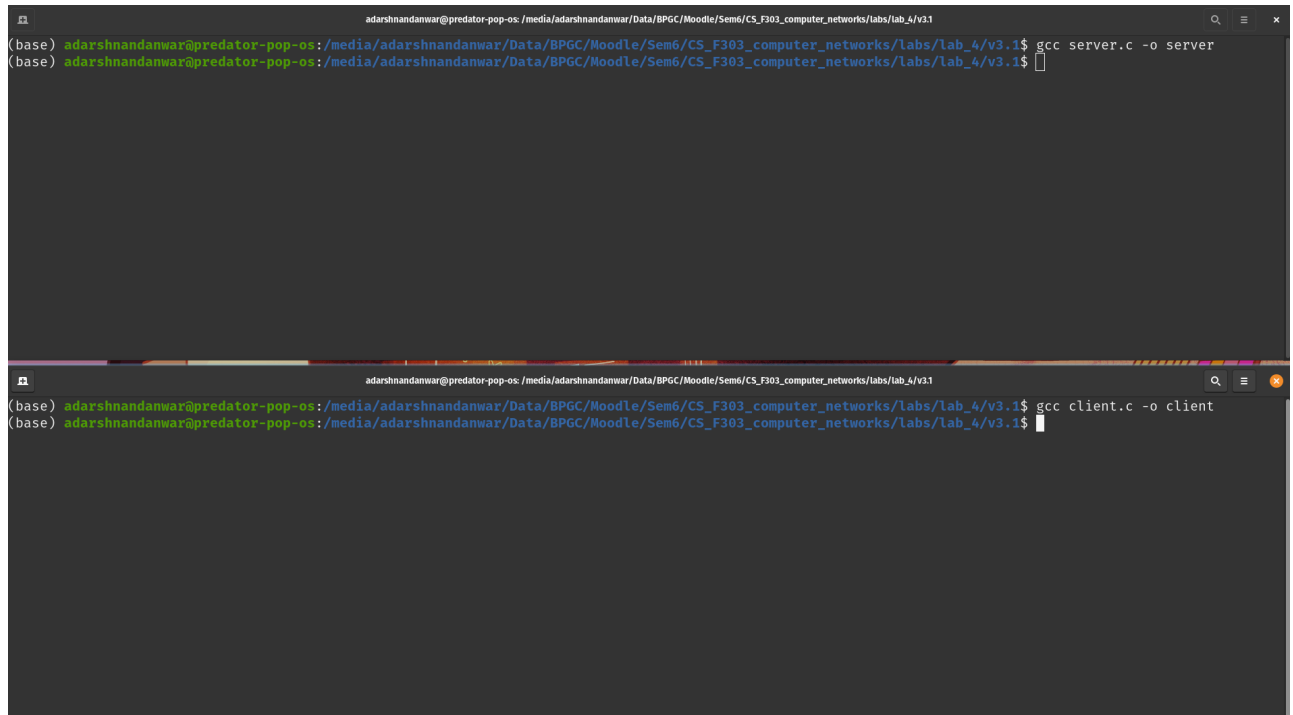
# Lab 4

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BITS ID- 2018A7PS0396G

## Screenshots

- Compiling `server.c` and `client.c`

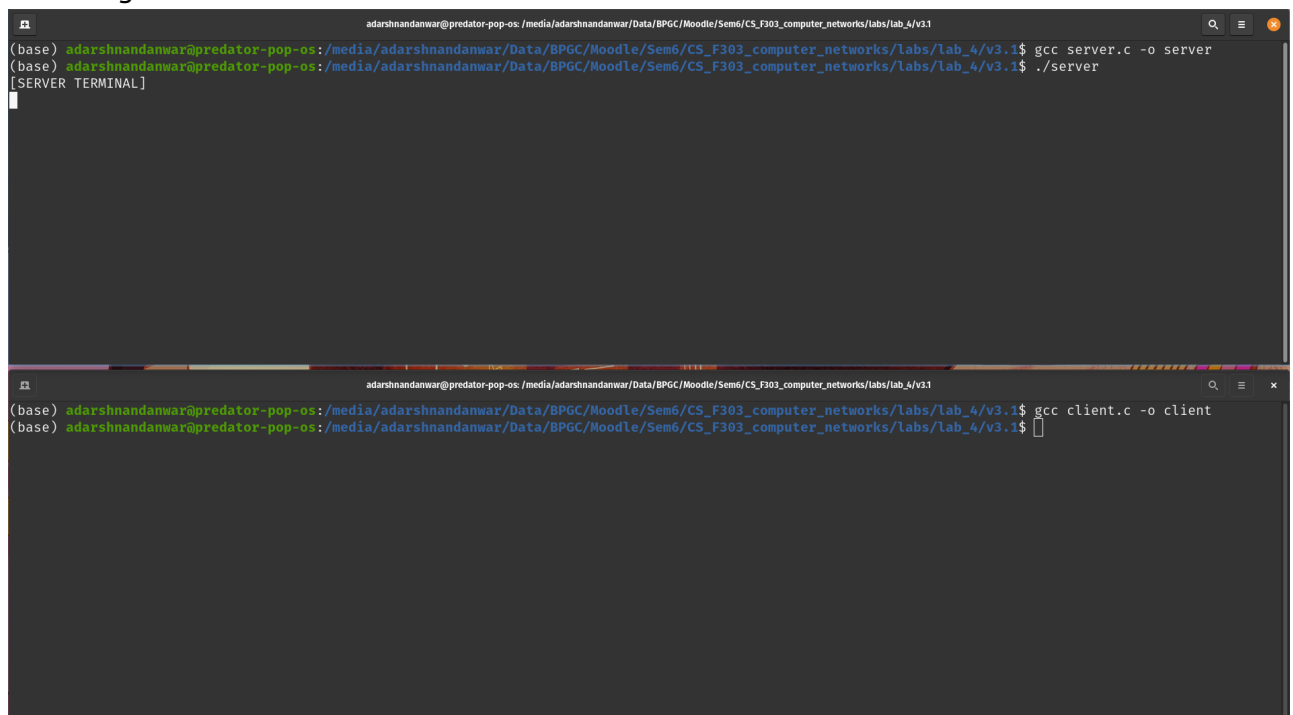


The first terminal window shows the command `gcc server.c -o server` being executed in a directory `/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1`. The second terminal window shows the command `gcc client.c -o client` being executed in the same directory.

```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$
```

- Executing server

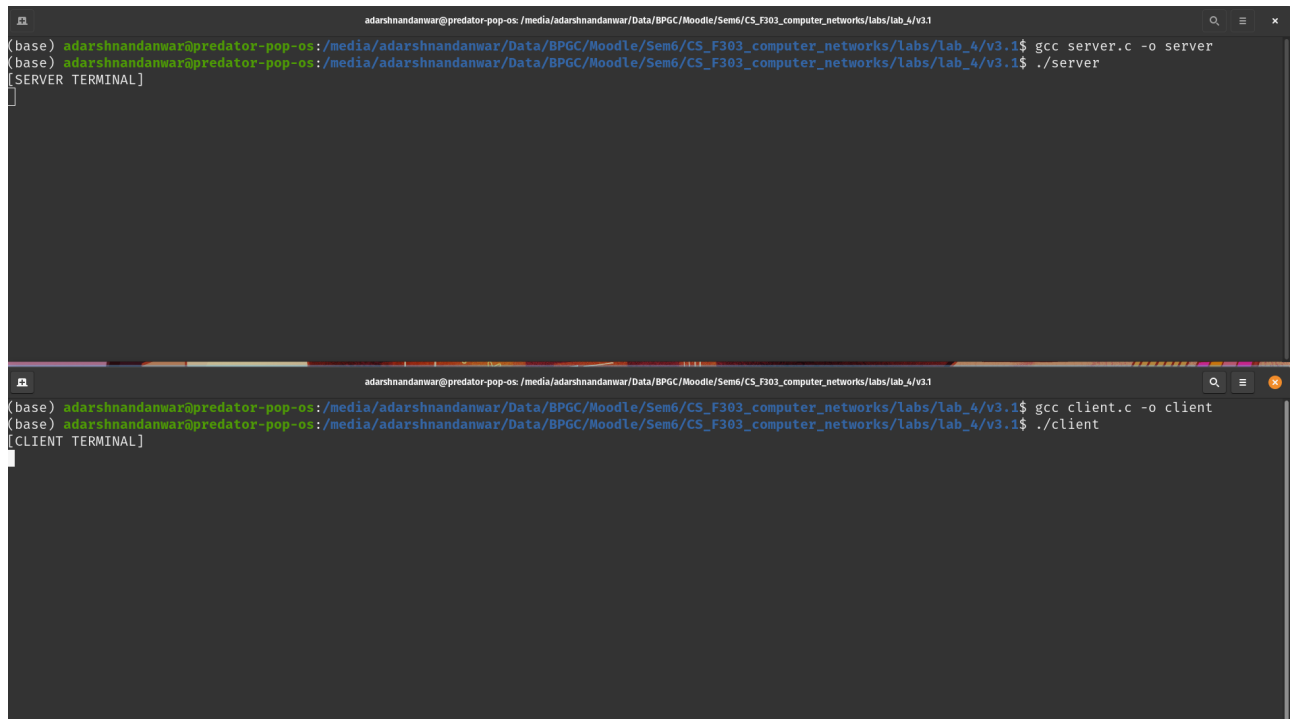


The first terminal window shows the command `./server` being executed, resulting in the output `[SERVER TERMINAL]`. The second terminal window shows the command `gcc client.c -o client` being executed, which is a duplicate of the previous screenshot.

```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$
```

- Executing client. Connection established.



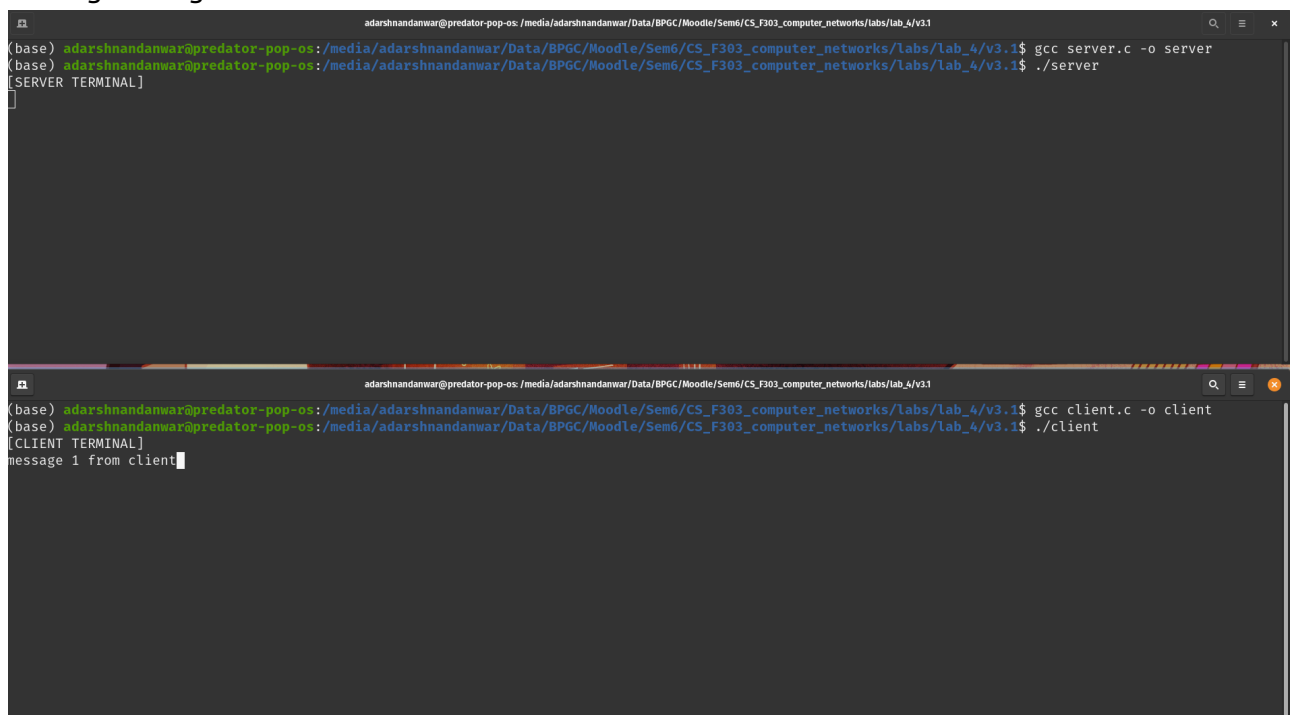
The image shows two terminal windows. The top window is titled 'adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS\_F303\_computer\_networks/labs/lab\_4/v3.1'. It contains the following commands and output:

```
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
```

The bottom window is titled 'adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS\_F303\_computer\_networks/labs/lab\_4/v3.1'. It contains the following commands and output:

```
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
```

- Writing message in client terminal



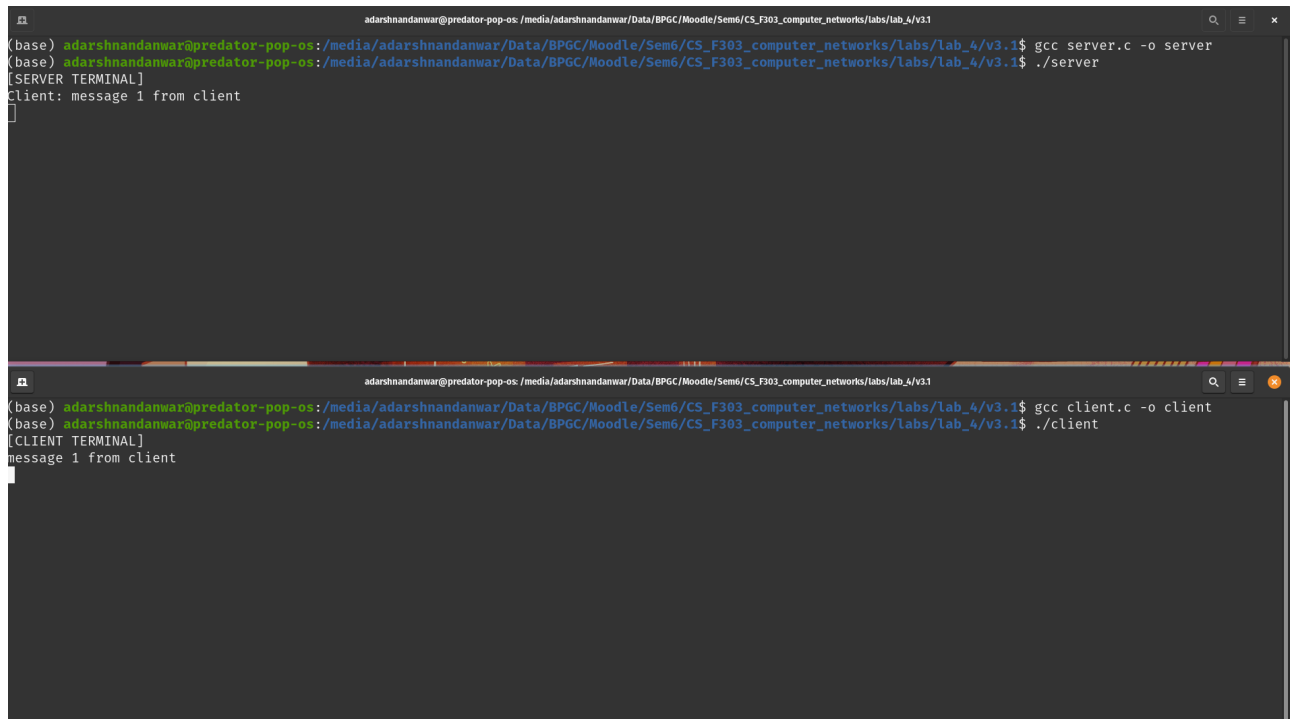
The image shows two terminal windows. The top window is titled 'adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS\_F303\_computer\_networks/labs/lab\_4/v3.1'. It contains the following commands and output:

```
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
```

The bottom window is titled 'adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS\_F303\_computer\_networks/labs/lab\_4/v3.1'. It contains the following commands and output:

```
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
```

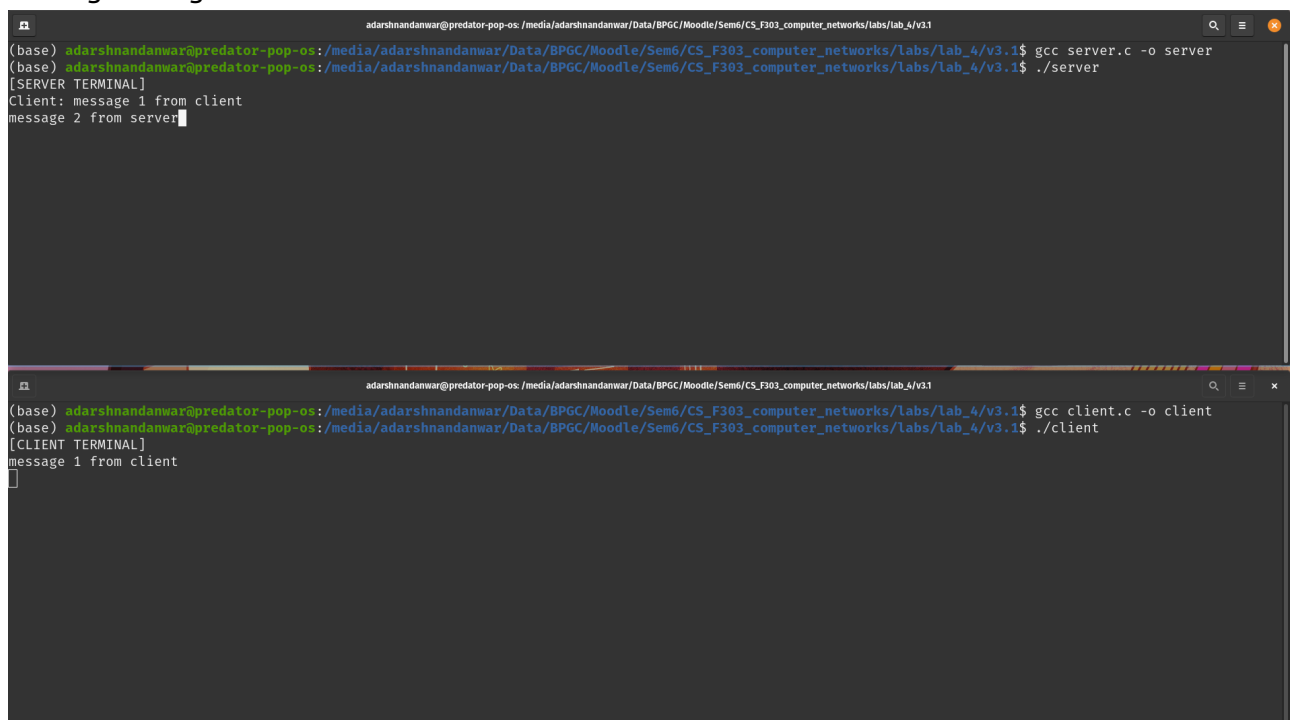
- Sending message from client to server



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
```

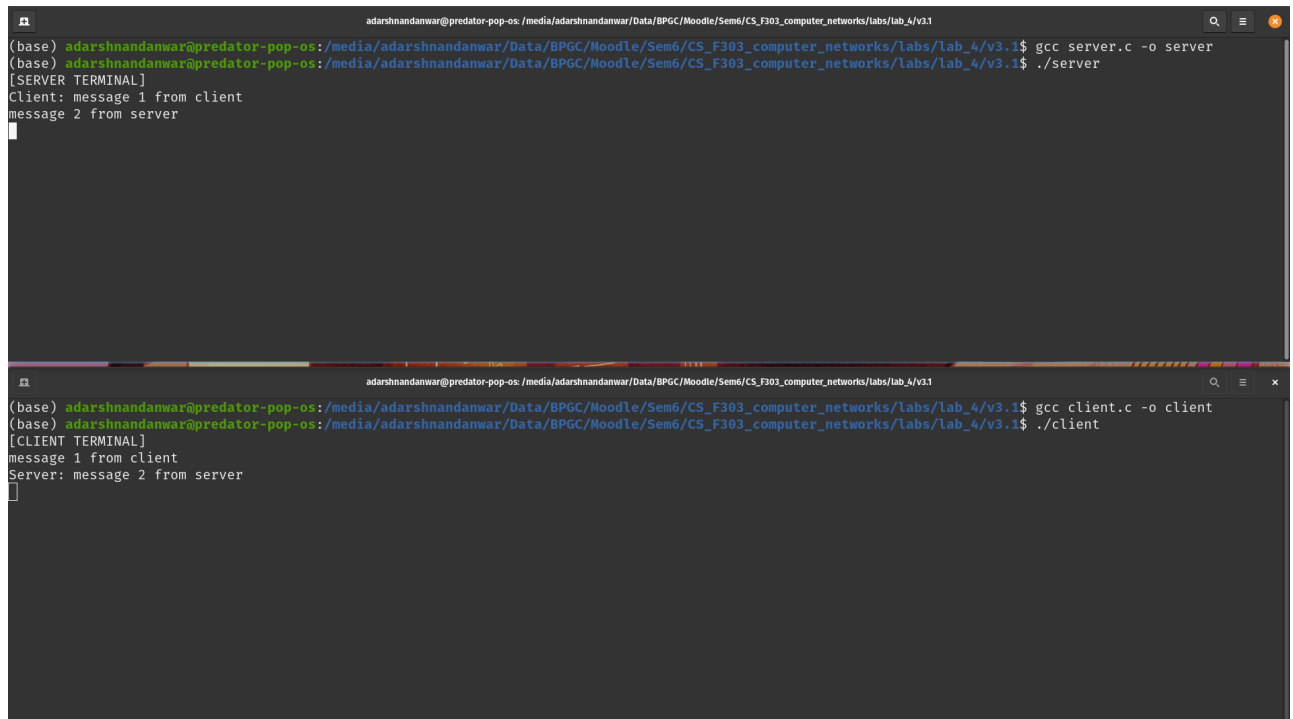
- Writing message in server terminal



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
```

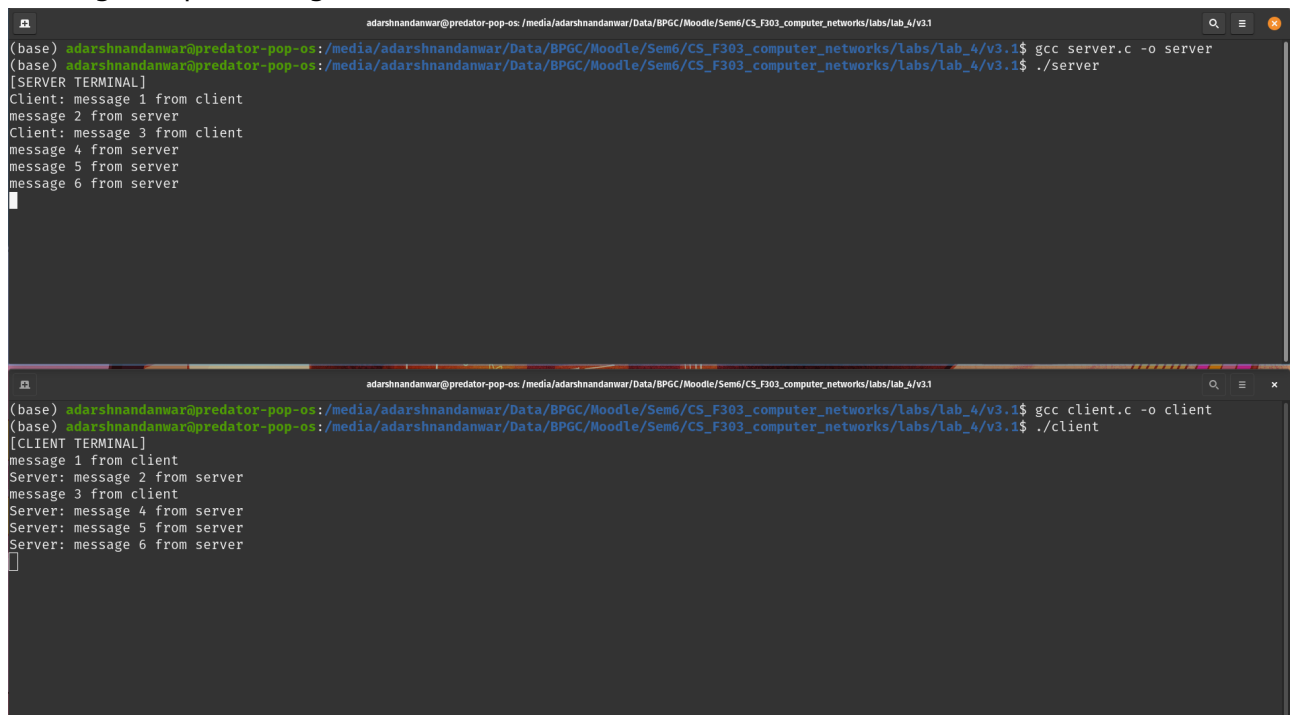
- Sending message from server to client



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
Server: message 2 from server
```

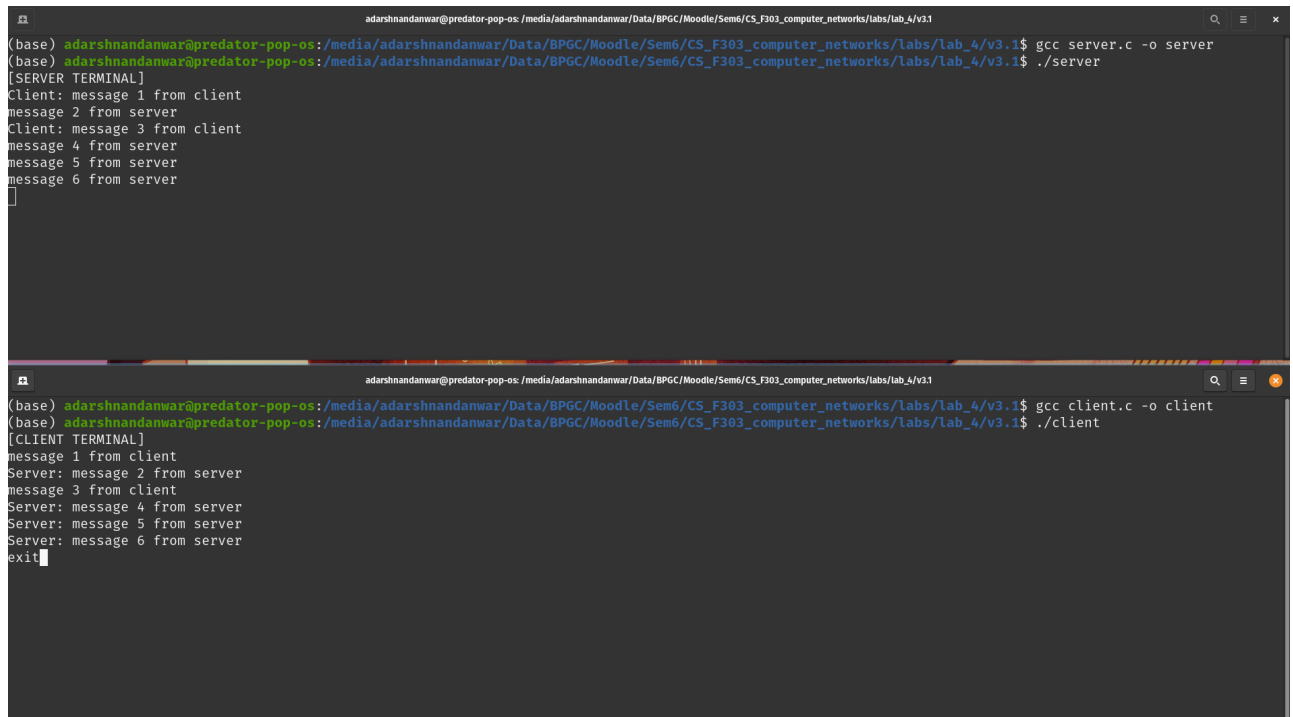
- Sending multiple messages between client and server



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server
Client: message 3 from client
message 4 from server
message 5 from server
message 6 from server

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
Server: message 2 from server
message 3 from client
Server: message 4 from server
Server: message 5 from server
Server: message 6 from server
```

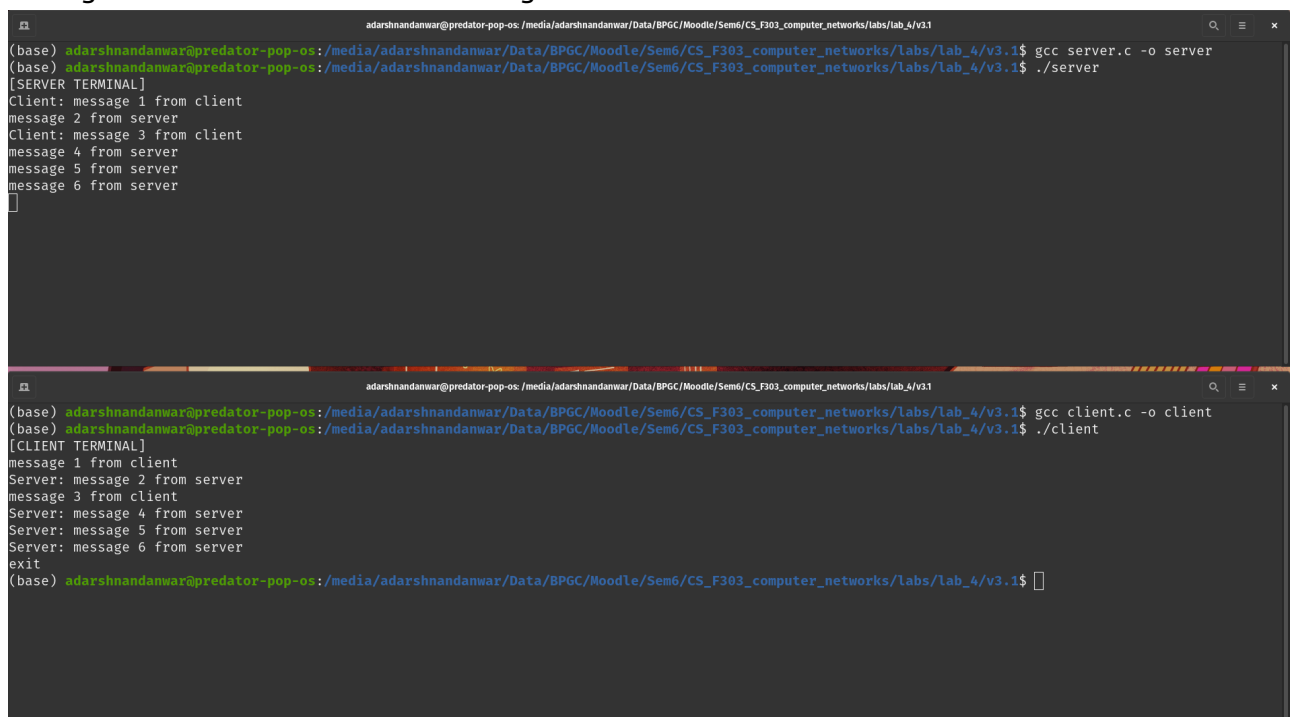
- Writing `exit` in client



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server
Client: message 3 from client
message 4 from server
message 5 from server
message 6 from server
[]

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
Server: message 2 from server
message 3 from client
Server: message 4 from server
Server: message 5 from server
Server: message 6 from server
exit
[]
```

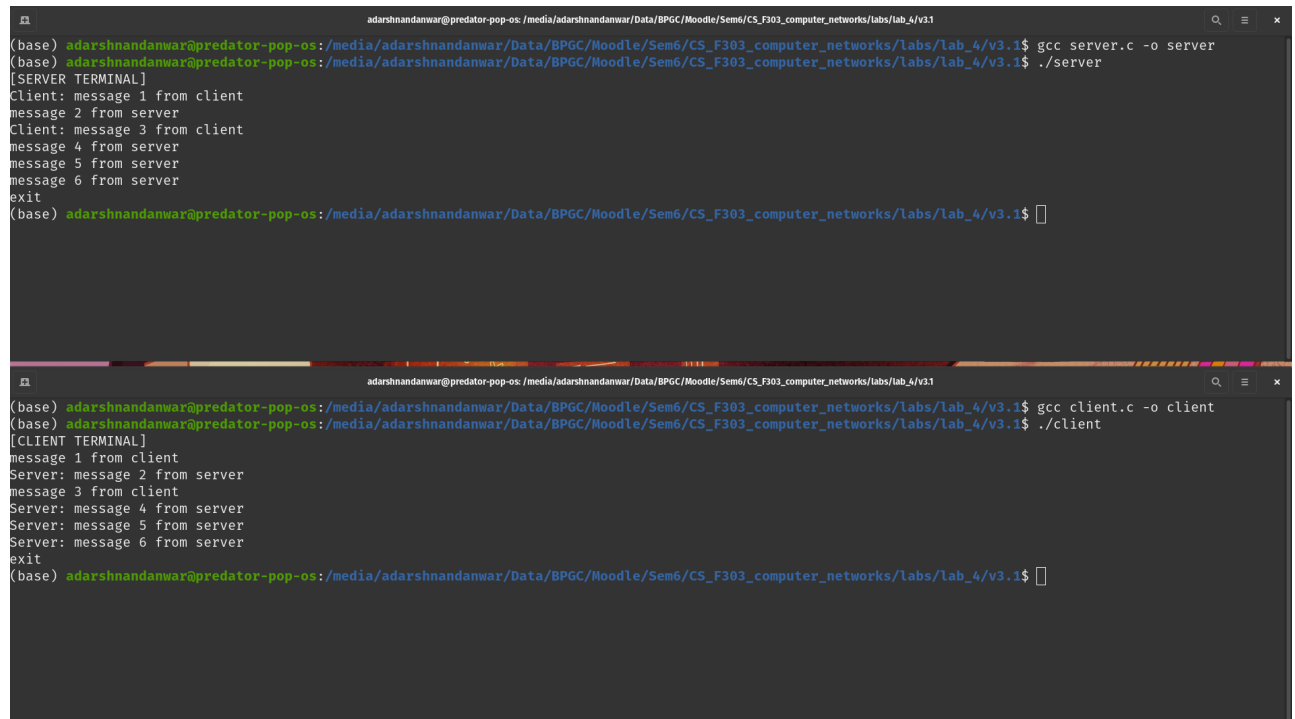
- Exiting from client when server is running



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server
Client: message 3 from client
message 4 from server
message 5 from server
message 6 from server
[]

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
Server: message 2 from server
message 3 from client
Server: message 4 from server
Server: message 5 from server
Server: message 6 from server
exit
(base) adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ []
```

- Exiting from server when client is running



```
adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc server.c -o server
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./server
[SERVER TERMINAL]
Client: message 1 from client
message 2 from server
Client: message 3 from client
message 4 from server
message 5 from server
message 6 from server
exit
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$

adarshnandanwar@predator-pop-os: /media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ gcc client.c -o client
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$ ./client
[CLIENT TERMINAL]
message 1 from client
Server: message 2 from server
message 3 from client
Server: message 4 from server
Server: message 5 from server
Server: message 6 from server
exit
(base) adarshnandanwar@predator-pop-os:/media/adarshnandanwar/Data/BPGC/Moodle/Sem6/CS_F303_computer_networks/labs/lab_4/v3.1$
```