

Output for TCP/IP Implementation

One to One:

The given procedure is followed-

1. Client 1 (Top Left) sends “hi from client 1” to client 2.
2. Client 2 (Bottom Left) sends “hi from client 2 ” to client 3, and receives message from client 1.
3. Client 3 (Bottom Right) sends “hi from client 3 ” to client 1, and receives message from client 2.
4. Client 1 (Top Left) sends “bye from client 1 ” to client 2 and receives message from client 3.
5. Client 2 (Bottom Left) sends “bye from client 2 ” to client 3 and receives message from client 1.
6. Client 3 (Bottom Right) sends “bye from client 3 ” to client 1 and receives message from client 2.

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:20
root@kali: ~/IT215

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent : bye from client 1
hi from client 3

Please enter the message to be sent : █

root@kali:~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent : █

root@kali:~/IT215 62x13
root@kali:~/IT215# gcc -pthread -o q3_2 201801408_server_stream.c
root@kali:~/IT215# ./q3_2 2503 1 &
[1] 3251
root@kali:~/IT215# Enter mode in the command line
1=One to one
2=broadcast

Waiting for incoming connections...

Connection accepted
Handler assigned
Connection accepted

root@kali:~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 3
hi from client 2

Please enter the message to be sent : █
```

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:20
root@kali: ~/IT215

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent : bye from client 1
hi from client 3

Please enter the message to be sent : 

```

```
root@kali: ~/IT215 62x13
Message from client:hi from client 1

Message from client:hi from client 2

Message from client:hi from client 3

Message from client:bye from client 1


```

```
root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent : bye 

```

```
root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 3
hi from client 2

Please enter the message to be sent : 

```

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:21
root@kali: ~/IT215

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent : bye from client 1
hi from client 3

Please enter the message to be sent : exit
Acknowledgement message from server.
bye from client 3

Please enter the message to be sent : 

```

```
root@kali: ~/IT215 62x13
Message from client:bye from client 1

Message from client:bye from client 2

Message from client:bye from client 3

Message from client:exit


```

```
root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent : bye from client 2
Acknowledgement message from server.
bye from client 1

Please enter the message to be sent : 

```

```
root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2503
Please enter the message to be sent : hi from client 3
hi from client 2

Please enter the message to be sent : bye from client 3
Acknowledgement message from server.
bye from client 2

Please enter the message to be sent : 

```

Broadcast

The given procedure is followed-

1. Client 1 (Top Left) sends “hi from client 1” to client 2 and client 3.
2. Client 2 (Bottom Left) sends “hi from client 2 ” to client 3 and client 1, and receives message from client 1.
3. Client 3 (Bottom Right) sends “hi from client 3 ” to client 1 and client 2, and receives message from client 1 and client 2 .
4. Client 1 (Top Left) sends “bye from client 1 ” to client 2 and client 3 and receives message from client 2 and client 3.
5. Client 2 (Bottom Left) sends “bye from client 2 ” to client 3 and client 1 and receives message from client 1 and client 3.
6. Client 3 (Bottom Right) sends “bye from client 3 ” to client 1 and client 2 and receives message from client 1 and client 2.

```
root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent :

root@kali:~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent :

root@kali: ~/IT215
root@kali:~/IT215# ./q3_2 2504 2 &
[1] 3411
root@kali:~/IT215# Enter mode in the command line
1=One to one
2=broadcast

Waiting for incoming connections...

Connection accepted
Handler assigned
Connection accepted
Handler assigned
Connection accepted

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent :
```

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:23
root@kali: ~/IT215

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent :

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent :

root@kali: ~/IT215 62x13
Handler assigned
Connection accepted
Handler assigned

Message from client:hi from client 1

Message from client:hi from client 2

Message from client:hi from client 3


```

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:23
root@kali: ~/IT215

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent : bye from client 1
hi from client 2
hi from client 3

Please enter the message to be sent :

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent :

root@kali: ~/IT215 62x13
Message from client:hi from client 1

Message from client:hi from client 2

Message from client:hi from client 3

Message from client:bye from client 1


```

```
Applications ▾ Places ▾ Terminator ▾ Thu 08:24
root@kali: ~/IT215

root@kali: ~/IT215 62x13
Please enter the message to be sent : hi from client 1
Acknowledgement message from server.

Please enter the message to be sent : bye from client 1
hi from client 2
hi from client 3

Please enter the message to be sent : exit
Acknowledgement message from server.
bye from client 2
bye from client 3

Please enter the message to be sent : █

root@kali: ~/IT215 62x13
Message from client:bye from client 1
Message from client:bye from client 2
Message from client:bye from client 3
Message from client:exit
█

root@kali: ~/IT215 62x13
root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 2
hi from client 1

Please enter the message to be sent : bye from client 2
Acknowledgement message from server.
hi from client 3
bye from client 1

Please enter the message to be sent : █

root@kali:~/IT215# ./q3_1 localhost 2504
Please enter the message to be sent : hi from client 3
hi from client 1
hi from client 2

Please enter the message to be sent : bye from client 3
Acknowledgement message from server.
bye from client 1
bye from client 2

Please enter the message to be sent : █
```