## RESULT:

Statement: this test was both completed on the VSC compiler of MAC and Linux system, which includes four cases.

This test is started by entering the server terminal: ./new_server 1234. And Client terminal: new_client 127.0.0.1 1234

1.Connecting one client to server at a time: and the text is terminated by a new linE
It shows the connection is established, then the client sends a message, and the message is echoed back by the server .



2.Sending two messages from a client
The client sends 2 messages to the server, and the server receives it.



3.Line with no text
The client sends a message with only EOF(ctrl D), the client gets disconnected.



4. three clients connected at the same time.
We open 3 terminals to connect 3 separate clients simultaneously to a server and messages sent from all three clients are echoed by the server successfully.



## Linux Version

Also, the test cases were tested on Linux, where you only need to use the command line: /make/ (/ is not the input) to start the work. The following is the screenshot on Linux.

**Top-left terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./server 1002
Server : listening in progress
Server : connection accepted
Server : Connection from port number 33466 and IP 127.0.0.1
 child process  ID is   =  3147
echoed msg from server : Hi,TAMU!
```

**Top-right terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.1
1002
Hi,TAMU!
Hi,TAMU!
```

**Second-row-left terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./server 1005
Server : listening in progress
Server : connection accepted
Server : Connection from port number 40830 and IP 127.0.0.1
 child process  ID is   =  3378
echoed msg from server : hi
~$echoed msg from server : hello
```

**Second-row-right terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.1
1005
hi
hi
hello
hello
```

**Third-row-left terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# gcc server.c -o ser
ver
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./server 1001
Server : listening in progress
Server : connection accepted
Server : Connection from port number 52284 and IP 127.0.0.1
 child process  ID is   =  2730
echoed msg from server : hi
Server : connection accepted
Server : Connection from port number 52286 and IP 127.0.0.1
 child process  ID is   =  2772
echoed msg from server : hello
Server : connection accepted
Server : Connection from port number 52300 and IP 127.0.0.1
 child process  ID is   =  2839
echoed msg from server : howdy
```

**Third-row-right terminals** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.
1001
hi
hi
```
```
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.
 1001
hello
hello
```
```
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.
1001
howdy
howdy
```

**Bottom-left terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./server 1004
Server : listening in progress
Server : connection accepted
Server : Connection from port number 58874 and IP 127.0.0.1
 child process  ID is   =  3312
echoed msg from server :
```

**Bottom-right terminal** — `root@boyu-virtual-machine: /home/boyu/Desktop/ECENMP...`
```
boyu@boyu-virtual-machine:~/Desktop/ECENMP1_Server$ su root
Password:
root@boyu-virtual-machine:/home/boyu/Desktop/ECENMP1_Server# ./client 127.0.0.1
1004
```