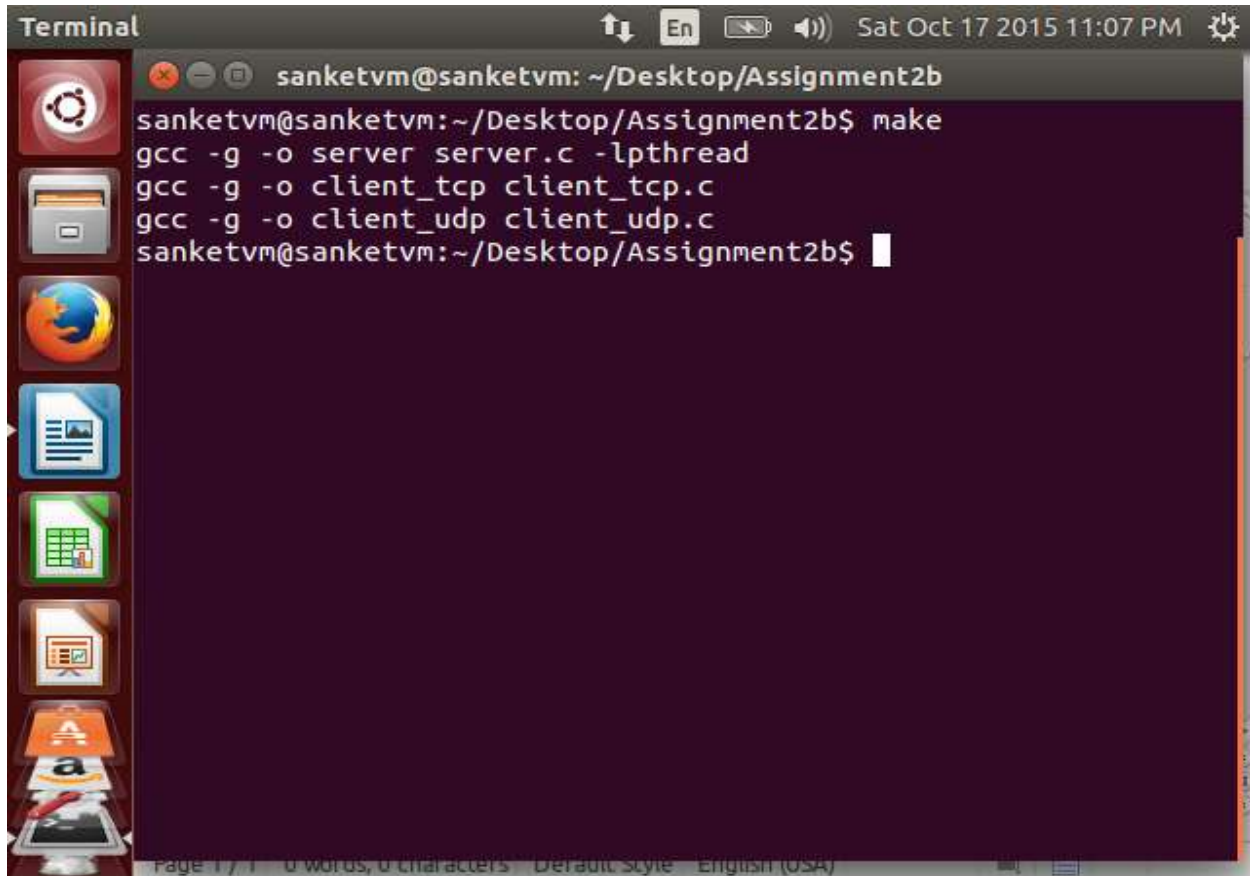


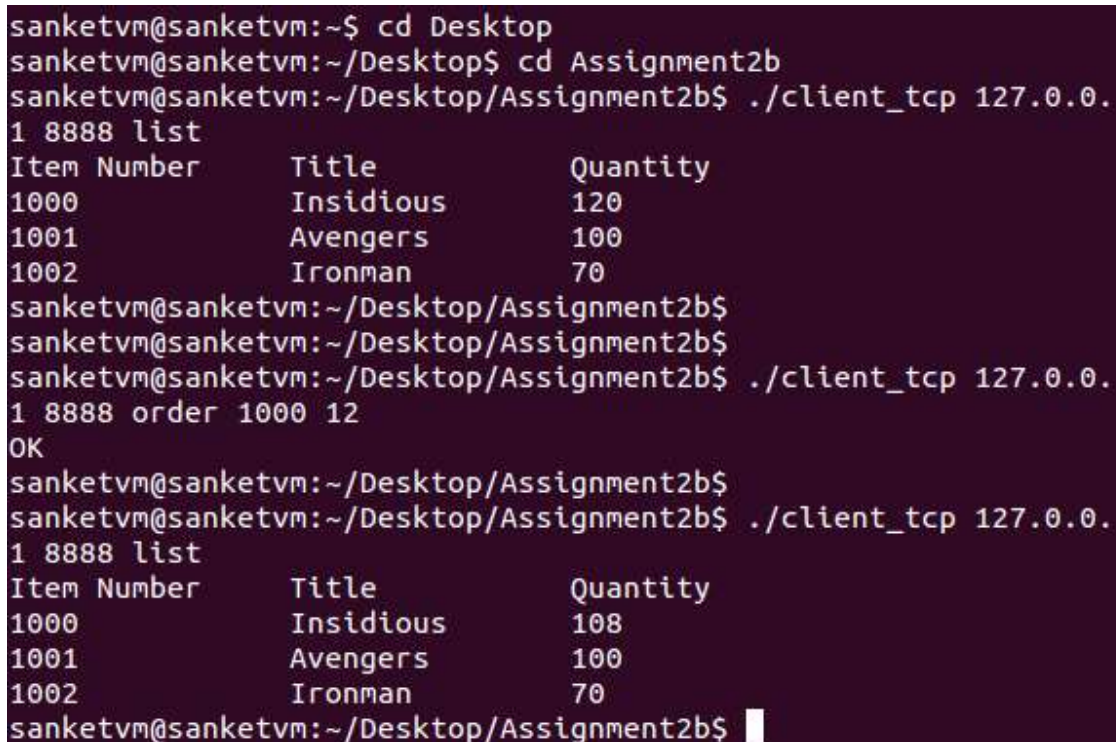
## Result: Problem 2

Makefile:

A terminal window titled "Terminal" with a dark background. The prompt is "sanketvm@sanketvm: ~/Desktop/Assignment2b". The user has entered the command "make". The output shows three compilation commands: "gcc -g -o server server.c -lpthread", "gcc -g -o client\_tcp client\_tcp.c", and "gcc -g -o client\_udp client\_udp.c". The prompt returns to "sanketvm@sanketvm: ~/Desktop/Assignment2b\$". On the left side of the terminal, there is a vertical dock with icons for a file manager, a web browser, a document, a spreadsheet, a presentation, and a folder.

```
Terminal
sanketvm@sanketvm: ~/Desktop/Assignment2b
sanketvm@sanketvm:~/Desktop/Assignment2b$ make
gcc -g -o server server.c -lpthread
gcc -g -o client_tcp client_tcp.c
gcc -g -o client_udp client_udp.c
sanketvm@sanketvm:~/Desktop/Assignment2b$
```

TCP clients:

A terminal window showing the execution of a TCP client. The user navigates to the Desktop and then to the Assignment2b directory. They run the command "./client\_tcp 127.0.0.1 8888 list". The output shows a table with three columns: Item Number, Title, and Quantity. The first row is 1000, Insidious, 120. The second row is 1001, Avengers, 100. The third row is 1002, Ironman, 70. The user then runs the command "./client\_tcp 127.0.0.1 8888 order 1000 12". The output is "OK". The user then runs the command "./client\_tcp 127.0.0.1 8888 list" again. The output shows the same table, but the quantity for item 1000 is now 108.

```
sanketvm@sanketvm:~$ cd Desktop
sanketvm@sanketvm:~/Desktop$ cd Assignment2b
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_tcp 127.0.0.
1 8888 list
Item Number      Title           Quantity
1000             Insidious      120
1001             Avengers       100
1002             Ironman        70
sanketvm@sanketvm:~/Desktop/Assignment2b$
sanketvm@sanketvm:~/Desktop/Assignment2b$
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_tcp 127.0.0.
1 8888 order 1000 12
OK
sanketvm@sanketvm:~/Desktop/Assignment2b$
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_tcp 127.0.0.
1 8888 list
Item Number      Title           Quantity
1000             Insidious      108
1001             Avengers       100
1002             Ironman        70
sanketvm@sanketvm:~/Desktop/Assignment2b$
```

Server showing number of TCP clients and their details:

```
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./server 8888
Server is accepting connection on 0.0.0.0 address and port no.
8888
Client has connected to server on its 127.0.0.1 address and port
no. 55355
1 TCP clients conected so far
The client has requested for LIST
-----
Server is accepting connection on 0.0.0.0 address and port no.
8888
Client has connected to server on its 127.0.0.1 address and port
no. 55356
2 TCP clients conected so far
The client has requested for ORDER
Total DVD's Purchased by TCP and UDP clients: 12
*****
Server is accepting connection on 0.0.0.0 address and port no.
8888
Client has connected to server on its 127.0.0.1 address and port
no. 55357
3 TCP clients conected so far
The client has requested for LIST
-----
```

UDP request:

```
sanketvm@sanketvm:~$ cd Desktop
sanketvm@sanketvm:~/Desktop$ cd Assignment2b
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_udp 127.0.0.
1 8888 list
Item Number      Title             Quantity
1000             Insidious         108
1001             Avengers          100
1002             Ironman           70
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_udp 127.0.0.
1 8888 order 1000 8
OK
sanketvm@sanketvm:~/Desktop/Assignment2b$ ./client_udp 127.0.0.
1 8888 list
Item Number      Title             Quantity
1000             Insidious         100
1001             Avengers          100
1002             Ironman           70
sanketvm@sanketvm:~/Desktop/Assignment2b$ █
```

Server showing UDP requests and no. of DVD'd purchased by both TCP and UDP clients:

```
^[[DUDP connection
Server is accepting connection on 0.0.0.0 address and port no. 8888
Client has connected to server on its 127.0.0.1 address and port no. 5
5357
The client has requested for list

1 UDP clients connected so far

UDP connection
Server is accepting connection on 0.0.0.0 address and port no. 8888
Client has connected to server on its 127.0.0.1 address and port no. 5
5357
The client has requested for order

2 UDP clients connected so far

Total DVD's Purchased by TCP and UDP clients: 20

UDP connection
Server is accepting connection on 0.0.0.0 address and port no. 8888
Client has connected to server on its 127.0.0.1 address and port no. 5
5357
The client has requested for list

3 UDP clients connected so far
```