```
~/Desktop/Program1 - s 1
Last login: Fri Aug 4 13:02:37 on ttys003
The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`. For more details, please visit https://support.apple.com/kb/HT208050.
Ankits-MacBook-Air:Program1 ankit$ ls
client1.c
                readme copy.txt server1.c
|Ankits-MacBook-Air:Program1 ankit$ gcc -o s server1.c
|Ankits-MacBook-Air:Program1 ankit$ ./s 1
Server deployed and running without any errors
Received packet from client:
Packet number: 1
Packet size: 18
Content: Payload
----Packet Number 1----
Start of Packet ID
                           : "0XFFFF"
Client ID
                            : "0XFF"
                              "0XFFF1"
DATA
                            : "1"
Segment Number
                           : "0X8"
Length of payload
End of Packet ID
                           : "0XFFFF"
                                                       Packet 1 and its ACK
Server: Packet accepted. Sending an ack.
Size of ACK: 10 Bytes
   --ACK from Server 1----
Start of Packet ID
                           : "0XFFFF"
Client ID
                            : "0XFF"
                            : "0XFFF2"
ACK
```

Received Segment Number : "1"

: "0XFFFF"

Received packet from client: Packet number: 2 Packet size: 18 Content: Payload

End of Packet ID

----Packet Number 2--

Start of Packet ID : "0XFFFF" : "0XFF" Client ID "0XFFF1" DATA : "2" Segment Number Length of payload End of Packet ID "0X8" : "0XFFFF"

```
Server: Packet accepted. Sending an ack.
Size of ACK: 10 Bytes
```

Packet 2 and its ACK

----ACK from Server 2----Start of Packet ID :

: "0XFFFF" Client ID : "0XFF" : "0XFFF2" Received Segment Number : "2"

: "0XFFFF" End of Packet ID

Received packet from client:

Packet number: 3 Packet size: 18 Content: Payload

----Packet Number 3----

: "0XFFFF" Start of Packet ID Client ID "0XFF" DATA "0XFFF1" Segment Number "0X8" Length of payload End of Packet ID : "0XFFFF"

Packet 3 and its ACK

Server: Packet accepted. Sending an ack. Size of ACK: 10 Bytes

--ACK from Server 3--Start of Packet ID : "0XFFFF" Client ID : "0XFF" : "0XFFF2" ACK

Received Segment Number: "3"
End of Packet ID : "0X : "0XFFFF"

Received packet from client:

Packet number: 4 Packet size: 18 Content: Payload

---Packet Number 4--

Start of Packet ID Client ID "0XFFF1" DATA "4" Segment Number Length of payload End of Packet ID "0X8" "0XFFFF"

Server: Packet accepted. Sending an ack.

Size of ACK: 10 Bytes

----ACK from Server 4-

: "0XFFFF" Start of Packet ID Client ID "0XFF" "0XFFF2" ACK Received Segment Number : End of Packet ID : "0XFFFF"

Received packet from client:

Packet number: 5 Packet size: 18 Content: Payload Packet 4 and its ACK

----Packet Number 5----

Start of Packet ID : "0XFFFF"
Client ID : "0XFFF"
DATA : "0XFFF1"
Segment Number : "5"
Length of payload : "0X8"
End of Packet ID : "0XFFFF"

Server: Packet accepted. Sending an ack.

Size of ACK: 10 Bytes

----ACK from Server 5---Start of Packet ID : "0XFFF"
Client ID : "0XFFF"
ACK : "0XFFF2"
Received Segment Number : "55"
End of Packet ID : "0XFFFF"

Resetting the counter to test other cases

Received packet from client:

Packet number: 1 Packet size: 18 Content: Payload

----Packet Number 1----

Start of Packet ID : "0XFFFF"
Client ID : "0XFFF"
DATA : "0XFFF1"
Segment Number : "1"
Length of payload : "0X8"
End of Packet ID : "0XFFFF"

Server: Packet accepted. Sending an ack. Size of ACK: 10 Bytes

Size of ACK: 10 Bytes

----ACK from Server 1---Start of Packet ID : "0XFFF"
Client ID : "0XFFF"
ACK : "0XFFF2"
Received Segment Number : "1"
End of Packet ID : "0XFFFF"

Packet 5 and its ACK

Test case 1: Packet accepted

```
Received packet from client:
Packet number: 1
Packet size: 18
Content: Payload
----Packet Number 1----
Start of Packet ID : "0XFFFF"
Client ID : "0XFFF"
DATA : "0XFFF1"
```

: "0X8"

: "0XFFFF"

Server: Packet Rejected. Error: Duplicate Packet

Segment Number Length of payload

End of Packet ID

----Reject Packet 1---Start of Packet ID : "0XFFF"
Client ID : "0XFFF
REJECT : "0XFFF3"
Reject sub code : "0XFFF7"
Received Segment Number : "1"
End of Packet ID : "0XFFFF"

Received packet from client: Packet number: 3

Packet number: 3 Packet size: 18 Content: Payload

----Packet Number 3----

Start of Packet ID : "0XFFFF"
Client ID : "0XFFF"
DATA : "0XFFF1"
Segment Number : "3"
Length of payload : "0X8"
End of Packet ID : "0XFFFF"

Server: Packet Rejected. Error: Packet out of sequence

----Reject Packet 3---Start of Packet ID : "0XFFF"
Client ID : "0XFFF"
REJECT : "0XFFF3"
Reject sub code : "0XFFF4"
Received Segment Number : "3"
End of Packet ID : "0XFFFF"

Test case 2: Error - Duplicate packet

Test case 3: Error - Packet out of sequence

```
Packet number: 2
Packet size: 18
Content: Payload
----Packet Number 2----
Start of Packet ID
                             : "0XFFFF"
Client ID
                              : "0XFF"
                              : "0XFFF1"
: "2"
DATA
Segment Number
Length of payload
End of Packet ID
                              : "0X44"
                              : "0XFFFF"
Server: Packet Rejected.
Error: Length mismatch
----Reject Packet 2-
                              : "0XFFFF"
Start of Packet ID
Client ID
                              : "0XFF"
                              : "0XFFF3"
Reject sub code : "0XFFF5"
Received Segment Number : "2"
End of Packet ID
                              : "0XFFFF"
Received packet from client:
Packet number: 2
Packet size: 18
Content: Payload
   ---Packet Number 2
Start of Packet ID
Client ID
                              : "0XFFFF"
                                "0XFF"
                              : "0XFFF1"
: "2"
DATA
Segment Number
Length of payload
End of Packet ID
                                "0X8"
                              : "0XFFF0"
Server: Packet Rejected.
```

Error: End of packet missing
----Reject Packet 2---Start of Packet ID : "0.

Reject sub code : "0XFFF6" Received Segment Number : "2" End of Packet ID : "0XFFFF"

Client ID REJECT

: "0XFFFF"

: "0XFF" : "0XFFF3"

Received packet from client:

Test case 4: Error - Packet length mismatch

Test case 5: Error - End of packet missing