

1. Compile the Server Code and Run

```
clang server.c -o server  
./server
```

2. Compile the Client Code and Run

```
clang client.c -o client  
./client
```

3. Add input from error_input.txt to client -

```
Please enter your client ID : 1  
Populate Data Packet 1:  
Add start and end of packet (y/n) : n  
Enter Segment Number : 1  
Default Data Packet length (y/n): y  
Enter Payload for datapacket : This packet has no start and end  
  
Populate Data Packet 2:  
Add start and end of packet (y/n) : y  
Enter Segment Number : 1  
Default Data Packet length (y/n): n  
Enter Packet Length: 10  
Enter Payload for datapacket : This packet has bad length  
  
Populate Data Packet 3:  
Add start and end of packet (y/n) : y  
Enter Segment Number : 2  
Default Data Packet length (y/n): y  
Enter Payload for datapacket : This is out of sequence  
  
Populate Data Packet 4:  
Add start and end of packet (y/n) : y  
Enter Segment Number : 1  
Default Data Packet length (y/n): y  
Enter Payload for datapacket : This is a normal packet  
  
Populate Data Packet 5:  
Add start and end of packet (y/n) : y  
Enter Segment Number : 1  
Default Data Packet length (y/n): y  
Enter Payload for datapacket : This is duplicate packet
```

4. Output of client for error_input.txt :

```
Received REJECT for Packet 1 for Client 1 -  
|65535|1|RJ|65526|1|65535|  
End of Packet missing.  
  
Received REJECT for Packet 1 for Client 1 -  
|65535|1|RJ|65524|1|65535|  
Packet out of sequence error.  
  
Received REJECT for Packet 2 for Client 1 -  
|65535|1|RJ|65524|2|65535|
```

```
Packet out of sequence error.  
  
Transmission successful. Received ACK for Data Packet 1  
  
|65535|1|AK|1|65535|  
  
Received REJECT for Packet 1 for Client 1 -  
  
|65535|1|RJ|65527|1|65535|  
  
Duplicate Packet.
```

5. Output of Server

```
Received Data Packet (Sequence 1): This packet has no start and end  
Start or end of packet missing. Sent REJECT  
  
Received Data Packet (Sequence 1): This packet has bad length  
Invalid Packet length. Sent REJECT  
  
Received Data Packet (Sequence 2): This is out of sequence  
Out of Sequence packet received. Sent REJECT  
  
Received Data Packet (Sequence 1): This is a normal packet  
  
|65535|1||1|272|This is a normal packet|65535|  
  
Sent ACK  
Received Data Packet (Sequence 1): This is duplicate packet  
Duplicate Packet.Sent REJECT
```

6. Output for client when server is not responding :

```
Sending Data Packet to Server  
Timeout: No response received.  
No response received for Data Packet 1 within the timeout. Retrying...  
Sending Data Packet to Server  
Timeout: No response received.  
No response received for Data Packet 1 within the timeout. Retrying...  
Sending Data Packet to Server  
Timeout: No response received.  
No response received for Data Packet 1 within the timeout. Retrying...  
Sending Data Packet to Server  
No response received for Data Packet 1 after 3 retries. Server did not Respond.
```