OUTPUT SCREENSHOTS:

1) Retransmitting in case server does not respond

```
prats@DESKTOP-HKBK3VQ:~$ ./ClientTest
PrintDataPacket(human readable): ClientID 1  SegmentNo 1  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 1  Length 13 Payload data client message
 Attempting to receive: count=3
Retransmitting Attempt Number: 1
Attempting to receive: count=2
Retransmitting Attempt Number: 2
Attempting to receive: count=1
Retransmitting Attempt Number: 3
Server doesn't respond
prats@DESKTOP-HKBK3VQ:~$
```

2) 5 Correct Packets

SERVER:

```
prats@DESKTOP-HKBK3VQ:~$ gcc ServerTest.c PacketUtil.c -o ServerTest
prats@DESKTOP-HKBK3VQ:~$ ./ServerTest
--------------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 1  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 1  Length 13 Payload data client message
--------------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 2  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 2  Length 13 Payload data client message
--------------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 3  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 3  Length 13 Payload data client message
--------------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 4  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 4  Length 13 Payload data client message
--------------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 5  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 5  Length 13 Payload data client message
--------------------------------------------------------------------------------------------------------
Waiting for data...
```

CLIENT:

```
prats@DESKTOP-HKBK3VQ: ~
prats@DESKTOP-HKBK3VQ:~$ gcc ClientTest.c PacketUtil.c -o ClientTest
prats@DESKTOP-HKBK3VQ:~$ ./ClientTest
PrintDataPacket(human readable): ClientID 1  SegmentNo 1  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 1  Length 13 Payload data client message
 Success in sending message
 Expecting ACK
PrintAckPacket              :ClientID 1 ReceivedSegmentNo 1
-------------------------------------------------------------------------------------------------
PrintDataPacket(human readable): ClientID 1  SegmentNo 2  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 2  Length 13 Payload data client message
 Success in sending message
 Expecting ACK
PrintAckPacket              :ClientID 1 ReceivedSegmentNo 2
-------------------------------------------------------------------------------------------------
PrintDataPacket(human readable): ClientID 1  SegmentNo 3  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 3  Length 13 Payload data client message
 Success in sending message
 Expecting ACK
PrintAckPacket              :ClientID 1 ReceivedSegmentNo 3
-------------------------------------------------------------------------------------------------
PrintDataPacket(human readable): ClientID 1  SegmentNo 4  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 4  Length 13 Payload data client message
 Success in sending message
 Expecting ACK
PrintAckPacket              :ClientID 1 ReceivedSegmentNo 4
-------------------------------------------------------------------------------------------------
PrintDataPacket(human readable): ClientID 1  SegmentNo 5  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 5  Length 13 Payload data client message
 Success in sending message
 Expecting ACK
PrintAckPacket              :ClientID 1 ReceivedSegmentNo 5
-------------------------------------------------------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
```

3) Duplicate Packets

SERVER:

```
-------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 5  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 5  Length 13 Payload data client message

Duplicate packet. Last seq no 5 Segment no 5 i.e why out of sequence
-------------------------------------------------------------------------------------------------
Waiting for data...
```

CLIENT:

```
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
1
Duplicate packet

PrintDataPacket(human readable): ClientID 1  SegmentNo 5  Length 19 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 5  Length 13 Payload data client message
 Expecting REJECT packet

PrintRejectPacket(human readable): ClientID 1 RejectSubcode 3 ReceivedSegmentNo 5
 PrintRejectPacket          HEX: ClientID 1 RejectSubcode 3 ReceivedSegmentNo 5
 ------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
```

4) Length Mismatch

SERVER:

```
-----------------------------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 6  Length 20 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 6  Length 14 Payload data client message


Length Mismatch. datapkt.Length=20  and  strlen(datapkt.PayLoad)=19

-----------------------------------------------------------------------------------------------------
Waiting for data...
```

CLIENT:

```
 ------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
3
Length Mismatch

PrintDataPacket(human readable): ClientID 1  SegmentNo 6  Length 20 Payload data client message
 PrintDataPacket          (hex): ClientID 1  SegmentNo 6  Length 14 Payload data client message
 Expecting REJECT packet

PrintRejectPacket(human readable): ClientID 1 RejectSubcode 1 ReceivedSegmentNo 6
 PrintRejectPacket          HEX: ClientID 1 RejectSubcode 1 ReceivedSegmentNo 6
 ------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
```

5) Out of Sequence

SERVER:

```
-----------------------------------------------------------------------------------
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

PrintDataPacket(human readable): ClientID 1  SegmentNo 8  Length 19 Payload data client message
 PrintDataPacket            (hex): ClientID 1  SegmentNo 8  Length 13 Payload data client message


Out of sequence. Expected segment 6, received segment 8

-----------------------------------------------------------------------------------
Waiting for data...
```

CLIENT:

```
--------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
2
Out of sequence

PrintDataPacket(human readable): ClientID 1  SegmentNo 8  Length 19 Payload data client message
 PrintDataPacket            (hex): ClientID 1  SegmentNo 8  Length 13 Payload data client message
 Expecting REJECT packet

PrintRejectPacket(human readable): ClientID 1 RejectSubcode 0 ReceivedSegmentNo 8
 PrintRejectPacket             HEX: ClientID 1 RejectSubcode 0 ReceivedSegmentNo 8
 --------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
```

6) End of Packet Mismatch

SERVER:

```
Waiting for data...Received packet from 127.0.0.1:65212 and recv_len=264

Corrupted end of Packet Identifier FF F6
PrintDataPacket(human readable): ClientID 1  SegmentNo 6  Length 19 Payload data client message
 PrintDataPacket            (hex): ClientID 1  SegmentNo 6  Length 13 Payload data client message


End of Packet missing

-----------------------------------------------------------------------------------
Waiting for data...
```

CLIENT:

```
--------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
4
End of Packet Missing

PrintDataPacket(human readable): ClientID 1  SegmentNo 6  Length 19 Payload data client message
 PrintDataPacket           (hex): ClientID 1  SegmentNo 6  Length 13 Payload data client message
 Expecting REJECT packet

PrintRejectPacket(human readable): ClientID 1 RejectSubcode 2 ReceivedSegmentNo 6
 PrintRejectPacket            HEX: ClientID 1 RejectSubcode 2 ReceivedSegmentNo 6
--------------------------------------------------
Please enter choice for Error Handling
 1:Duplicate packet
 2:Out of sequence
 3:Length Mismatch
 4:End packet missing
 5:Quit
```