Sample outputs of the client/server program of Part 2 (with PACKET DROP RATE and PACKET ERROR RATE set to 0.1) in transferring a small file.

```
● ● ●                    Part 2 — -zsh — 80×59
Last login: Wed Mar  3 16:14:15 on ttys002
atctam@atctamnb Part 2 % python3 test-client2.py localhost slidingW.png 0.1 0.1
Open file successfully
File bytes are  9205
Drop rate: 0.1  Error rate: 0.1
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 4
rdt_send: I am expecting an ACK packet, but received a DATA packet
rdt_send: Peer sent me a new DATA packet!!
rdt_send: Drop the packet as I cannot accept it at this point
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: I am expecting an ACK packet, but received a DATA packet
rdt_send: Peer sent me a new DATA packet!!
rdt_send: Drop the packet as I cannot accept it at this point
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 12
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 10
Received server positive response
Start the file transfer . . .
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received a corrupted packet: Type = ACK, Length = 6
rdt_send: Drop the packet
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 205
Completed the file transfer.
Total elapse time: 0.339 s       Throughput: 27.16 KB/s
rdt_close: Nothing happened for 0.500 second
rdt_close: Release the socket
Client program terminated
atctam@atctamnb Part 2 %
```

```
● ● ●                    Part 2 — -zsh — 80×63
Last login: Wed Mar  3 16:14:49 on ttys000
atctam@atctamnb Part 2 % python3 test-server2.py localhost 0.1 0.1
Drop rate: 0.1  Error rate: 0.1
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 10
Received client request: file size = 9205
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 18
Open file ./Store/slidingW.png for writing successfully
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: I am expecting an ACK packet, but received a DATA packet
rdt_send: Received a retransmission DATA packet from peer!!
rdt_send: Retransmit the ACK packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: I am expecting an ACK packet, but received a DATA packet
rdt_send: Received a retransmission DATA packet from peer!!
rdt_send: Retransmit the ACK packet
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 4
Start receiving the file . . .
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 211
rdt_close: Nothing happened for 0.500 second
rdt_close: Release the socket
Completed the file transfer.
Server program terminated
atctam@atctamnb Part 2 %
```

Part of the sample outputs of the client/server program of Part 2 (with PACKET DROP RATE and PACKET ERROR RATE set to 0.3) in transferring a small file.

Left terminal (Part 2 — -zsh — 80×59):

```
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received a corrupted packet: Type = ACK, Length = 6
rdt_send: Drop the packet
rdt_send: Timeout!! Retransmit the packet 0 again
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Timeout!! Retransmit the packet 1 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Timeout!! Retransmit the packet 0 again
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Timeout!! Retransmit the packet 0 again
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 1000
rdt_send: Received the expected ACK
rdt_send: Sent one message of size 205
Completed the file transfer.
Total elapse time: 1.483 s        Throughput: 6.21 KB/s
rdt_close: Nothing happened for 0.500 second
rdt_close: Release the socket
Client program terminated
atctam@atctamnb Part 2 %
```

Right terminal (Part 2 — -zsh — 80×59):

```
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
WARNING: udt_send: Packet corrupted in unreliable layer!!
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 1006
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a message of size 1006
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a corrupted packet: Type = DATA, Length = 1006
rdt_recv: Drop the packet
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
WARNING: udt_send: Packet lost in unreliable layer!!
rdt_recv: Received a retransmission DATA packet from peer!!
rdt_recv: Retransmit the ACK packet
rdt_recv: Got an expected packet
rdt_recv: Received a message of size 211
rdt_close: Nothing happened for 0.500 second
rdt_close: Release the socket
Completed the file transfer.
Server program terminated
atctam@atctamnb Part 2 %
```