Networks Assigment

CSE 2019

GO BACK N PROTOCOL 5

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Language used : c++

Our Program is able to test that frames and packets sent by the transmitter is received by the receiver in 3 cases :

1- Correct frames sent before timeout (The reciever send an acknowlgment to the transmitter to inform it to send next frame)
2- Bad or damaged Frames sent (The reciever send an Nack to sender informing it to send them again)
3- Frames received after the timer stops –timout happens- (The reciever send a Nack to sender informing it to send this frame again)

Those 3 cases are tested by random time we made in our code to be able to test every case output and see which frame and packet is being sent now and also the data contained inside

Inputs to program :

Data

Windowsize

Outputs from program :

Scenetences showing what happenes in each case of above

Screenshots of test case 1 :

```
Please Enter Your data
12345678
enter your packet size not greater than 10
2
Network is sending Packet 0 .
Physical layer is recieving Frame 0 .
Physical layer is sending Frame 0 .
Network layer is recieving Packet 0 .
Data in this packet is 12
Acknowledgment 0 has not been recieved.
----------------------------------------.
Network is sending Packet 0 .
Physical layer is recieving Frame 0 .
Physical layer is sending Frame 0 .
Network layer is recieving Packet 0 .
Data in this packet is 12
Acknowledgment 0 has been recieved.
**********************************.
Network is sending Packet 1 .
Physical layer is recieving Frame 1 .
Physical layer is sending Frame 1 .
Network layer is recieving Packet 1 .
Data in this packet is 34
Acknowledgment 1 has been recieved.
**********************************.

                                       .
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Time Out and Resend.
-------------------.
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Time Out and Resend.
-------------------.
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Acknowledgment 2 has been recieved.
**********************************.
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is 78
Time Out and Resend.
-------------------.
```

```
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is 78
Acknowledgment 3 has not been recieved.
----------------------------------------.
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is 78
Acknowledgment 3 has been recieved.
***********************************.
```

Screenshots of test case 2 :

```
Please Enter Your data
ymymmaryamyoumna
enter your packet size not greater than 10
4
Network is sending Packet 0 .
Physical layer is recieving Frame 0 .
Physical layer is sending Frame 0 .
Network layer is recieving Packet 0 .
Data in this packet is ymym
Acknowledgment 0 has not been recieved.
----------------------------------------.
Network is sending Packet 0 .
Physical layer is recieving Frame 0 .
Physical layer is sending Frame 0 .
Network layer is recieving Packet 0 .
Data in this packet is ymym
Acknowledgment 0 has been recieved.
***********************************.
Network is sending Packet 1 .
Physical layer is recieving Frame 1 .
Physical layer is sending Frame 1 .
Network layer is recieving Packet 1 .
Data in this packet is mary
Acknowledgment 1 has been recieved.
***********************************.
```

```
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Time Out and Resend.
-------------------.
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Time Out and Resend.
-------------------.
Network is sending Packet 2 .
Physical layer is recieving Frame 2 .
Physical layer is sending Frame 2 .
Network layer is recieving Packet 2 .
Data in this packet is 56
Acknowledgment 2 has been recieved.
*************************************.
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is 78
Time Out and Resend.
-------------------.
```

```
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is umna
Acknowledgment 3 has not been recieved.
----------------------------------------.
Network is sending Packet 3 .
Physical layer is recieving Frame 3 .
Physical layer is sending Frame 3 .
Network layer is recieving Packet 3 .
Data in this packet is umna
Acknowledgment 3 has been recieved.
********************************.
```