README
STOP AND WAIT
(EE20BTECH11015-DONTHULA SRINISH)

Stop and Wait:

The codes for this protocol are in folder named “stopandwait”.There are 2 files named “EE20BTECH11015_senderStopWait.py”(sends image) and “EE20BTECH11015_receiverStopWait.py”(receives image).
Before running the code, first we should run “sudo mn” commands in the terminal and create 2 hosts named h1 and h2 by running “xterm h1” and “xterm h2” respectively.
The commands to add/change the link speed, delay and packet loss are written in “h1-arp.sh” and “h2-arp.sh”(“sudo tc qdisc add dev h1-eth0 root netem rate 10Mbit limit 100 delay 5ms loss 5%” in h1-arp.sh and similarly in h2-arp.sh”).
To implement the link speed, delay and packet loss, we should run the bash commands (“bash h1-arp.sh” in xterm h1 and similarly in xterm h2).
We can check the packet loss and delay by running the command “h1 ping -c 10 h2”.
Now we can run the python codes.
I am sending a image from h1 to h2.I am breaking the image data into small chunks and sending it one after the other by receiving the acknowledgements from the receiver.There is a socket timeout.If a packet takes more than timeout,then the sender will not receiver the acknowledgement.We can change the socket timeout in the “sender.py” and check the total time taken to send the image and number of retransmissions.
I am receiving the image in a file named “received.jpg”.
I have calculated the total time taken to send the image, throughput and number of retransmissions in the code itself.By running the code for different timeouts, we get different throughput and different number of retransmissions.