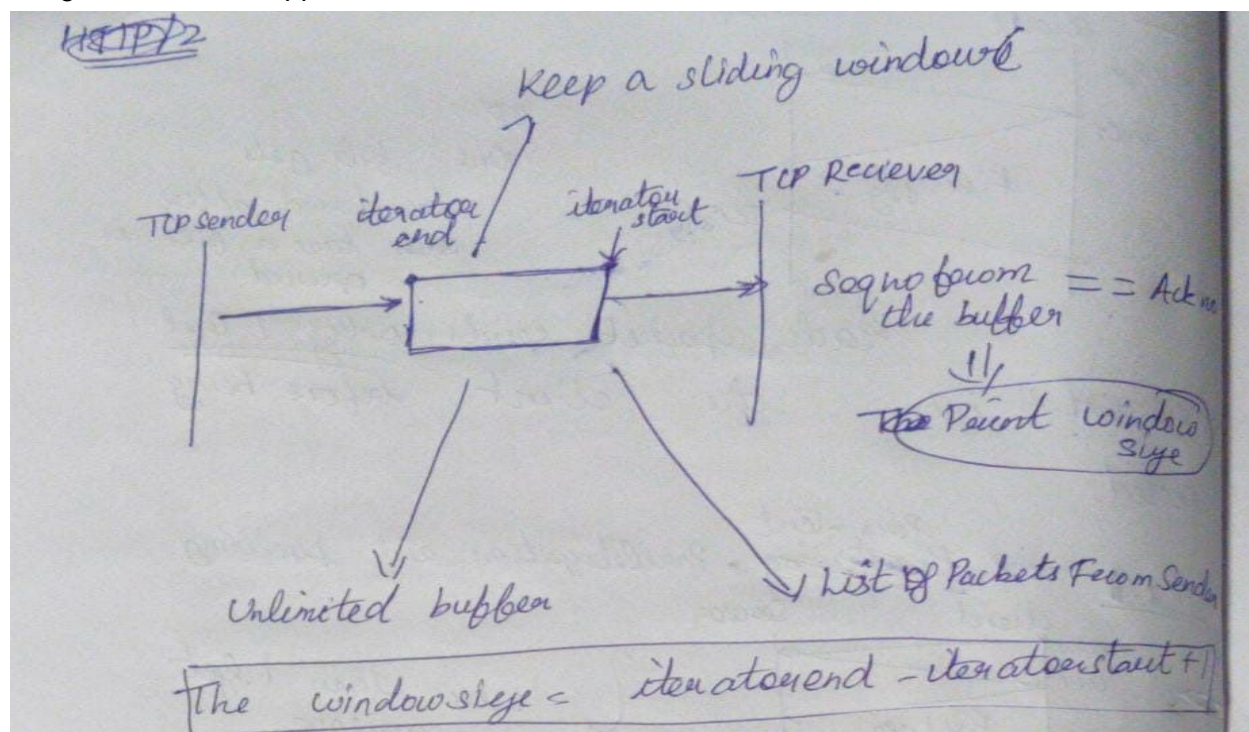


Congestion Control Approach:



Assumption:
The message/packets sent from ~~buf~~ sender to buffer is at a constant rate.

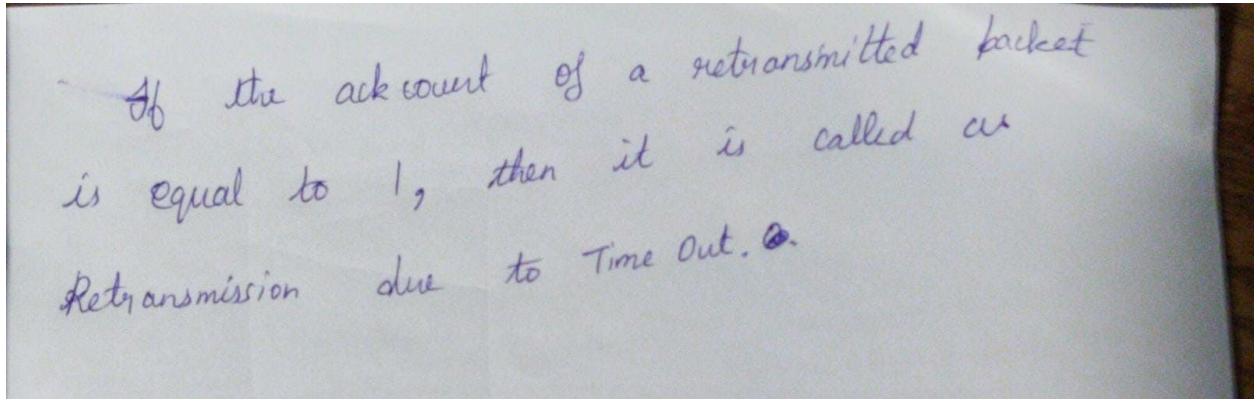
Retransmission

If a packet (Sequence number) is being sent ^{from sender} multiple times, then retransmission has occurred.

We count the acknowledgement count of each packet from sender at receiver end.

If backcount of a retransmitted packet is greater than 3, then it is called as Retransmission Due to Triple duplicate Acknowledgment.

The window grows(iterator_end) when a Client sides a message and when a message gets acknowledged at the Server-side, the window shrinks(iterator_start increases).



The Source Port is 43498

Retransmission due to Triple Duplicate 2

Retransmission due to Time out 1

The Source Port is 43500

Retransmission due to Triple Duplicate 3

Retransmission due to Time out 90

The Source Port is 43502

Retransmission due to Triple Duplicate 0

Retransmission due to Time out 0

For every flow, between every Round Trip Time of a packet, there will be a lot of unacknowledged packets. These packets together are labeled as Congestion Window.

To Find Retransmission:

In addition to the congestion window, we also track the count of acknowledgement for a particular packet(Seqnumber).

For any packet, if the ackcount of the sequence number is greater than 3, then the duplicate acknowledgment is being sent. If the ackcount of the sequence number is only 1, then there is a time out.

FileName: Congestion.py

Functions Used:

packetinit(ts,buf):

PrecomputedSenderPackets(listofpackets,listofuniqueports)

First10CongestionWindow(listofpackets,listofuniqueports, ListofPacketsFromSender)

RetransmissionOccured(listofpackets,listofuniqueports, ListofPacketsFromSender)

Output:

The Source Port is 43498

First 10 Congestion size

10

11

12

13

14

15

16

15

14

13

The Source Port is 43500

First 10 Congestion size

10

11

10

13

14

13

12

14

15

14

The Source Port is 43502

First 10 Congestion size

10

11

10

9

8

7

6

5

4

3

The Source Port is 43498

Retransmission due to Triple Duplicate 2

Retransmission due to Time out 1

The Source Port is 43500

Retransmission due to Triple Duplicate 3

Retransmission due to Time out 90

The Source Port is 43502

Retransmission due to Triple Duplicate 0

Retransmission due to Time out 0