Date - 21/08/2023 Computer Networks

**EXPERIMENT NO 6**

**NS2 - SLIDING WINDOW**

**Code:**

set ns [new Simulator]

set n0 [$ns node]

set n1 [$ns node]

$ns at 0.0 "$n0 label Sender"

$ns at 0.0 "$n1 label Receiver"

set nf [open sliding.nam w]

$ns namtrace-all $nf

set f [open sliding.tr w]

$ns trace-all $f

$ns duplex-link $n0 $n1 0.2Mb 200ms DropTail

$ns duplex-link-op $n0 $n1 orient right

$ns queue-limit $n0 $n1 10

Agent/TCP set nam\_tracevar\_ true

set tcp [new Agent/TCP]

$tcp set windowInit\_ 4

$tcp set maxcwnd\_ 4

$ns attach-agent $n0 $tcp

set sink [new Agent/TCPSink]

$ns attach-agent $n1 $sink

$ns connect $tcp $sink

set ftp [new Application/FTP]

$ftp attach-agent $tcp

$ns add-agent-trace $tcp tcp

$ns monitor-agent-trace $tcp

$tcp tracevar cwnd\_

$ns at 0.1 "$ftp start"

$ns at 3.0 "$ns detach-agent $n0 $tcp ; $ns detach-agent $n1 $sink"

$ns at 3.5 "finish"

$ns at 0.0 "$ns trace-annotate \"Sliding Window with window size 4 (normal operation)\""

$ns at 0.05 "$ns trace-annotate \"FTP starts at 0.1\""

$ns at 0.11 "$ns trace-annotate \"Send Packet\_0,1,2,3\""

$ns at 0.34 "$ns trace-annotate \"Receive Ack\_0,1,2,3\""

$ns at 0.56 "$ns trace-annotate \"Send Packet\_4,5,6,7\""

$ns at 0.79 "$ns trace-annotate \"Receive Ack\_4,5,6,7\""

$ns at 0.99 "$ns trace-annotate \"Send Packet\_8,9,10,11\""

$ns at 1.23 "$ns trace-annotate \"Receive Ack\_8,9,10,11 \""

$ns at 1.43 "$ns trace-annotate \"Send Packet\_12,13,14,15\""

$ns at 1.67 "$ns trace-annotate \"Receive Ack\_12,13,14,15\""

$ns at 1.88 "$ns trace-annotate \"Send Packet\_16,17,18,19\""

$ns at 2.11 "$ns trace-annotate \"Receive Ack\_16,17,18,19\""

$ns at 2.32 "$ns trace-annotate \"Send Packet\_20,21,22,23\""

$ns at 2.56 "$ns trace-annotate \"Receive Ack\_24,25,26,27\""

$ns at 2.76 "$ns trace-annotate \"Send Packet\_28,29,30,31\""

$ns at 3.00 "$ns trace-annotate \"Receive Ack\_28\""

$ns at 3.1 "$ns trace-annotate \"FTP stops\""

proc finish {} {

global ns

$ns flush-trace

# close $nf

puts "running nam..."

exec nam sliding.nam &

exit 0

}

$ns run

**Output:**

