1

set ns [ new Simulator ]

set tf [ open lab1.tr w ]

$ns trace-all $tf

set nf [ open lab1.nam w ]

$ns namtrace-all $nf

# The below code is used to create the nodes.

set n0 [$ns node]

set n1 [$ns node]

set n2 [$ns node]

set n3 [$ns node]

#This is used to give color to the packets.

$ns color 1 "red"

$ns color 2 "blue"

$n0 label "Source/udp0"

$n1 label "Source/udp1"

$n2 label "Router"

$n3 label "Destination/Null"

#Vary the below Bandwidth and see the number of packets dropped.

$ns duplex-link $n0 $n2 10Mb 300ms DropTail

$ns duplex-link $n1 $n2 10Mb 300ms DropTail

$ns duplex-link $n2 $n3 1Mb 300ms DropTail

#The below code is used to set the queue size b/w the nodes

$ns set queue-limit $n0 $n2 10

$ns set queue-limit $n1 $n2 10

$ns set queue-limit $n2 $n3 5

#The below code is used to attach an UDP agent to n0, UDP agent to n1 and null agent to

n3.

set udp0 [new Agent/UDP]

$ns attach-agent $n0 $udp0

set cbr0 [new Application/Traffic/CBR]

$cbr0 attach-agent $udp0 set null [new Agent/Null]

$ns attach-agent $n3 $null set udp1 [new Agent/UDP]

$ns attach-agent $n1 $udp1

set cbr1 [new Application/Traffic/CBR]

$cbr1 attach-agent $udp1

#The below code sets the udp0 packets to red and udp1 packets to blue color

$udp0 set class\_ 1

$udp1 set class\_ 2

#The below code is used to connect the agents.

$ns connect $udp0 $null

$ns connect $udp1 $null

#The below code is used to set the packet size to 500

$cbr1 set packetSize\_ 500Mb

#The below code is used to set the interval of the packets, i.e., Data rate of the packets.

#if the data rate is high then packets drops are high.

$cbr1 set interval\_ 0.005

proc finish { } {

global ns nf tf

$ns flush-trace

exec nam lab1.nam &

close $tf

close $nf

exit 0

}

$ns at 0.1 "$cbr0 start"

$ns at 0.1 "$cbr1 start"

$ns at 10.0 "finish"

$ns run

AWK file:

(Open a new editor using gedit command and write awk file and save with “.awk” extension)

BEGIN{

#include<stdio.h>

count=0;

}

{

if($1=="d")

#d stands for the packets drops.

count++

} END{

printf("The Total no of Packets Dropped due to Congestion :%d\n\n", count)

}